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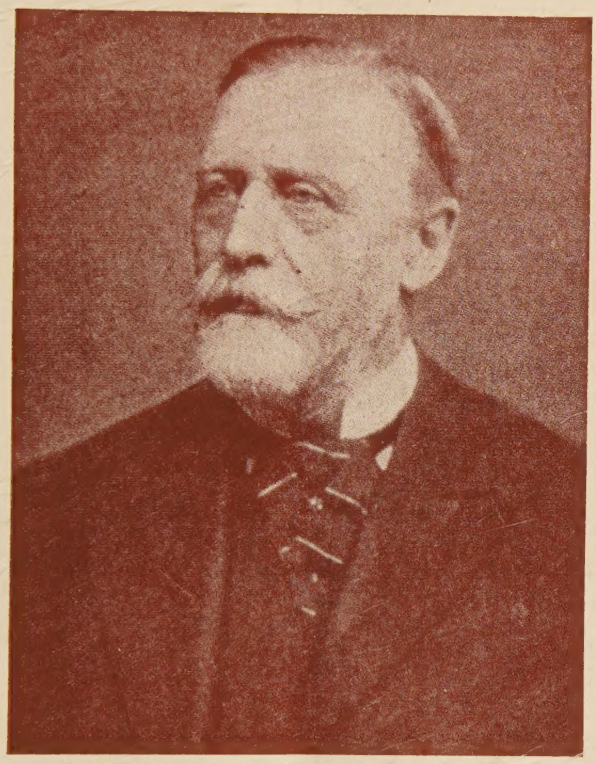

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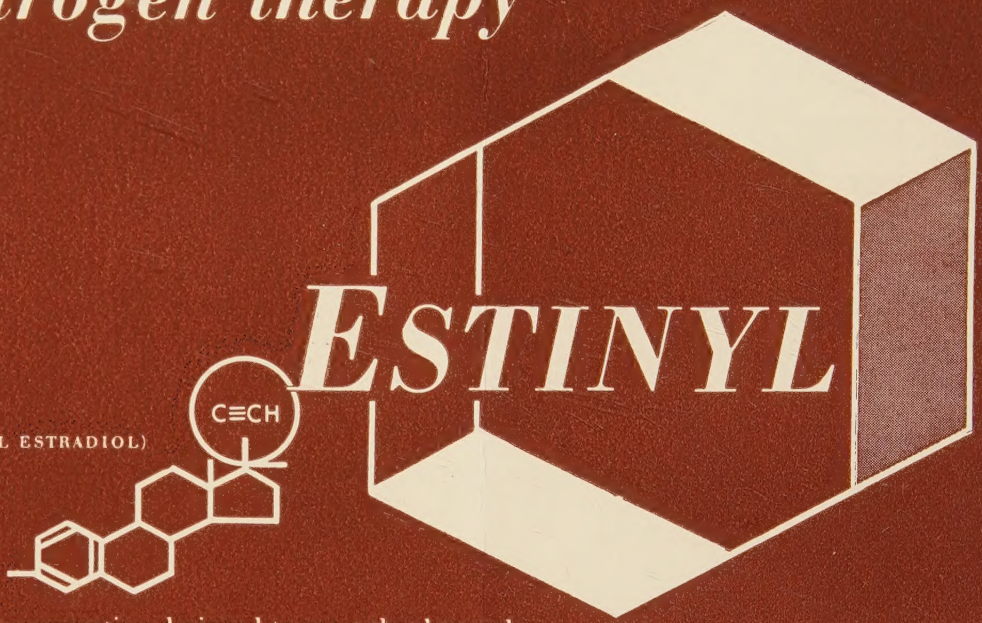

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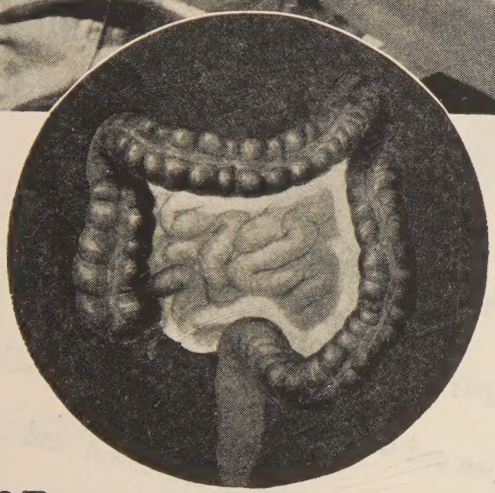

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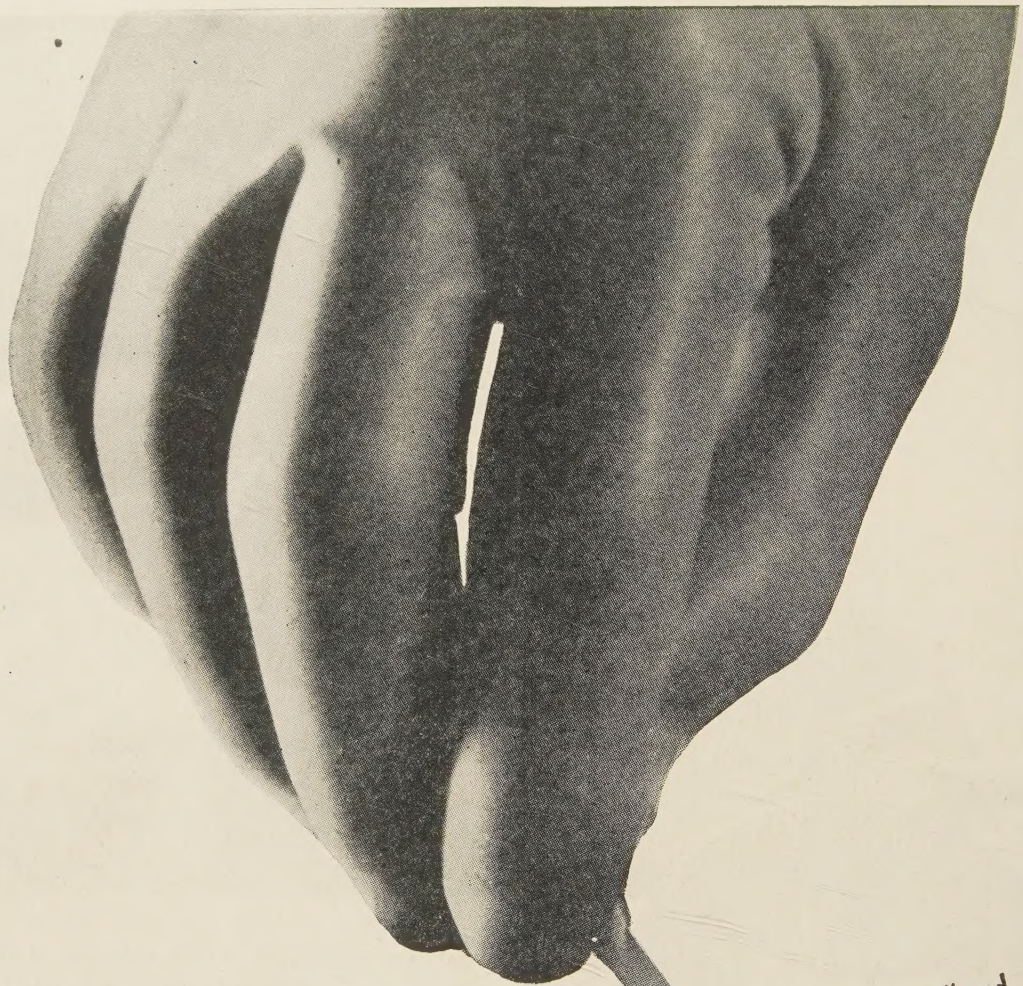

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Venereal Disease Control in Industry

The Advisory Committee of the Surgeon General of the U.S. Public Health Serivce urges the adoption of certain well established principles on which venereal disease control programs should be based. These principles are summarized as follows:

Education.—Planned campaign so that both employer and employee will understand the diseases, their causes, spread, cure, prophylaxis, and that under proper treatment and job placement infected persons may be employed safely and profitably.

Employment.—(a) If a person has infectious venereal disease, he or she should be referred to a private physician or clinic for confirmation of diagnosis and treatment; returned to work or employed when rendered noninfectious, and persuaded to continue treatment until the doctor pronounces the therapy adequate.

(b) If a person has noninfectious venereal disease, he or she should be referred to a private physician or clinic for confirmation of diagnosis and treatment, and retained on the job.

(c) If late manifestations of the disease are found such as cardiovascular syphilis, gonorrheal arthritis, etc.) the doctor should recommend the person for a job he is physically and mentally capable of doing with safety to himself and fellow workers.

(d) Follow-up: Arrangements made to care for patient by treatment by private physician, plant doctor, or clinic; attending doctor keeps plant doctor posted on regularity of treatment and progress of patient; refusal to take continued treatment leads to doctor notifying management; names of patients in infectious cases sent to health department for epidemiological investigation.

Venereal disease medical examination.—(a) Recommended for all employees; (b) should include serodiagnostic tests for syphilis; (c) gonorrhea smears or cultures, when indicated; (d) interval: preemployment, when doing periodic examinations; return-from-illness examinations; no more than three years between examinations; (e) results of examinations are confidential information of the attending physician and plant medical service.

Action in hundreds of industries, and endorsement from all ranks of management, labor, medical profession, public health authorities in the past twelve months furnish convincing proof. These principles have been accepted as a workable basis for venereal disease control programs.

New Zealand Army Hospital

The New Zealand Army Hospital, where sick and wounded American servicemen are treated and rehabilitated, is the largest hospital in the South Pacific area (*J.A.M.A.*, June 10, 1944). Situated in a healthful, temperate climate, the hospital was built and furnished by the New Zealand government and equipped with U.S. medical supplies. The staff consists of physicians and nurses from Yale University School of Medicine and School of Nursing. The program for mental and physical rehabilitation of patients includes work in shops, a photographic dark room, a gymnasium, and an athletic field. The hospital's rehabilitation program has been so successful that few patients have had to be evacuated to the United States for further treatment, and many of them have been returned to duty.

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Open Forum

Hospitals for the Amazon

HAROLD B. GOTAAS
Washington, D. C.

(*Continued from page* 458)

One of the largest Amazon towns is Iquitos, Peru, 2,300 miles upstream from the Atlantic. Good-sized steamers can make Iquitos. Iquitos, consequently, is a collecting and shipping center for the upper Amazon. The overhauling and improvement of the one hundred-bed Iquitos hospital was one of the first projects in the Peruvian health program. The plans include addition of a twenty-bed children's ward, a twenty-bed women's ward, a twenty-bed men's ward, a surgical section with operating and x ray room, administrative wing with out-patient department and kitchen and general service wing, water and sewerage facilities. Engineers encountered shortages of lumber and cement. Iquitos used to get cement from the United States, by way of the Amazon. During the height of the shipping shortage, early in 1943, some cement was obtained from Lima for the Iquitos work. This cement had to be shipped all the way around Cape Horn to Belem, at the mouth of the Amazon, and then up river to Iquitos. A brick shortage was solved by rental of a small brick yard. One by one, obstacles were overcome and work moved forward.

Another important new hospital in the Amazon is at Sanatrem, five hundred miles up the Amazon at the confluence of the Tapajoz river. The Ford rubber plantations on the Tapajoz are above Santarem. Santarem also is a trading center for cotton, sugar, cocoa and other tropical-grown products. It promises to grow with the development of the area, particularly if the rubber plantation industry attains any considerable scale on the pattern of the Ford development.

The Santarem project involves construction of a fifty-bed hospital, of partly two and partly one story construction. Santarem is about half way between two Amazon cities—Belem and Manaus. It is designed to meet hospital needs for the surrounding area, as well as for the town. Construction is of tile and brick, with operating rooms and an out-patient department and pharmacy. Equipment and fixtures mostly come from Brazil.

In the Amazon work, United States-trained engineers make available experience of this country in hospital construction and sanitary engineering. The engineers, like doctors and other specialists from the United States, are assigned by the Office of Inter-American Affairs. They are assigned to the special cooperative health services set up by the governments of other American republics for the health and sanitation work. In most countries, these special agencies are known simply as "Servicos". In Brazil, it is popularly known as the SESP, from the initials of its Brazilian title (Servico Especial de Saude Publica).

The first engineer on the Santarem project was Captain Sam Friedman, formerly of the New York City Department of Public Works. Major Ben Whistler, from the Iowa State College at Ames, was assigned to the work at Iquitos. Peter Pfisterer, an architectural engi-

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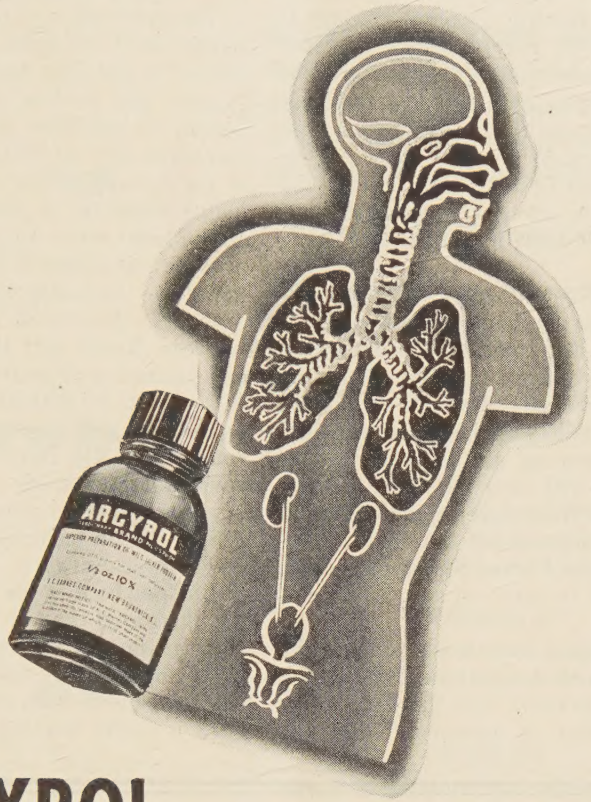

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neer, formerly with the Federal Housing Administration in Washington, has worked on designs for Amazon projects, including the Iquitos hospital. Other United States engineers in the Amazon work include Captain Robert Horton, formerly of the University of North Carolina; Captain Curtis E. Richey, formerly of the Iowa State Department of Health; Captain Chester J. Ordon, formerly of New York City, assigned to Manaus; and John A. Lewis, construction engineer at Riberalta. These are only a few of the United States engineers in the inter-American health and sanitation program. The full list is too long for mention here. All deserve recognition for the contributions they are making to the development of the Amazon as a source of strategic materials and for the raising of hemisphere living standards.

Most of the work, however, is done by doctors, engineers, and other specialists of the Amazon countries. For every United States doctor and engineer at work in the program, there are on the average twenty-five from the other American republics. The mingling of United States specialists with specialists of the other Americas promotes exchange of knowledge and experience. Undoubtedly this interchange will contribute toward more unified hemisphere practice in engineering as well as in medicine. Many sanitary engineers of the other Americas are being brought to the United States to observe public health practices and to carry on advanced studies.

Unique sanitation problems have arisen out of the Amazon development. Brazil, for instance, undertook to stimulate migration of workers into the Amazon to increase collection of rubber in agreement with the United States Rubber Development Corporation. Migration camps were set up along the line of travel. Health services were provided for these camps by SESP. Captain Edmund G. Wagner, formerly with the Minnesota State Health Department, had a hand in designing and constructing sanitation facilities for the camps.

The application of modern sanitation technique, such as the use of airplanes, makes a sharp contrast with conditions in the first Amazon rubber boom. Then rubber tappers and traders moved into the Amazon without benefit of machines and tropical medicine. Even with machines and up-to-date sanitation methods, conquest of the Amazon offers one of the greatest challenges to man's capacity to subdue nature for his own needs. Brazil looks upon Amazon development as a long-range program, although it has been speeded by wartime demand for tropical-grown materials. The long-range approach is illustrated in a recent five-year agreement between Brazil and the United States for the health and sanitation program, with Brazil putting up $5,000,000 to top $3,000,000 from the United States. This agreement also covers the Rio Doce valley, far to the south. The Rio Doce region is being developed as a source of high-grade iron ore, manganese, mica, rock crystals and other minerals. In the Rio Doce, too, modern sanitation technique is being applied along the lines of the Amazon work.

But nowhere is the Amazon development work better illustrated than at Pucallpa, terminus of Peru's motor highway across the Andes. A few years ago, before the completion of the highway, Pucallpa was hardly distinguishable from other towns in the upper Amazon. Now it is the meeting place of the highway and river

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Supported by health work, by colonization, by new airlines and by machinery, the improvement in overland transportation holds fresh promise for this frontier area. Already it has been demonstrated that the area has petroleum. Pucallpa, with its hospital and its highway connections, with access to the Amazon river system by way of the Ucayali, is rising as a shipping and trading center. In the development of this frontier area, the engineer has a creative role. Modern engineering knowledge, like machines, is destined to expedite the development of Amazon areas which long have resisted economic progress because of poor transportation, insufficient food supply and disease. Pucallpa's hospital, while unpretentious compared with most hospitals in urban centers of the Americas, expresses tangibly and in human terms the meaning of the Rio conference's recommendations for inter-American mobilization of hemisphere resources.

Books for the Colleges of Denmark

In October 1943 a non-profit, temporary organization, "Books for the Colleges of Denmark", was started in New York with the purpose of collecting funds for the purchase of the scholarly periodicals and books which have been published in this country since 1940. When the war is over, the accumulated material is to be presented to Denmark as a gift to the public and scholarly libraries of that country.

The organization is sponsored by His Excellency Henrik Kauffmann, Danish Minister to the United States, by the American Scandinavian Foundation and by the National American Denmark Association, and is headed by a committee of which the following are members: Her Royal Highness Margrethe, Princess of Denmark, Honorary Chairman; J. Chr. Bay, Librarian of the John Crerar Library, Chicago; Knud Engelsted, Riverside, Connecticut, Treasurer; Harald Ingholt, Yale University, New Haven, Chairman.

The Committee has decided to concentrate its efforts on acquiring the American periodicals and other serial publications which ought to be found in the libraries of Denmark. By the use of the official Danish Accessions Katalog of 1938, the Committee has prepared a complete checklist of all such publications as were at the outbreak of the war being received currently by the Danish libraries either by purchase or by exchange and gift. Steps have already been taken to secure the serial publications which were being received by purchase. The Committee is working in consultation with the American Library Association's Committee on Aid to Libraries in War Areas and it is hoped that in some way all of the purchased serials may be provided.

The Committee now undertakes to secure the later issues of those sets which were formerly received through exchange or gift relations. It appeals to the institutions whose publications were being sent to Danish libraries in those ways to continue to carry out part of the reciprocal arrangement.

Storage space for the publications collected by the Committee has been granted by the General Medical Library of Yale University, and it is expected that all of the material that is collected, whether by purchase or by exchange and gift, will be sent from that collection spot to Denmark as soon after the war as shipping fa-

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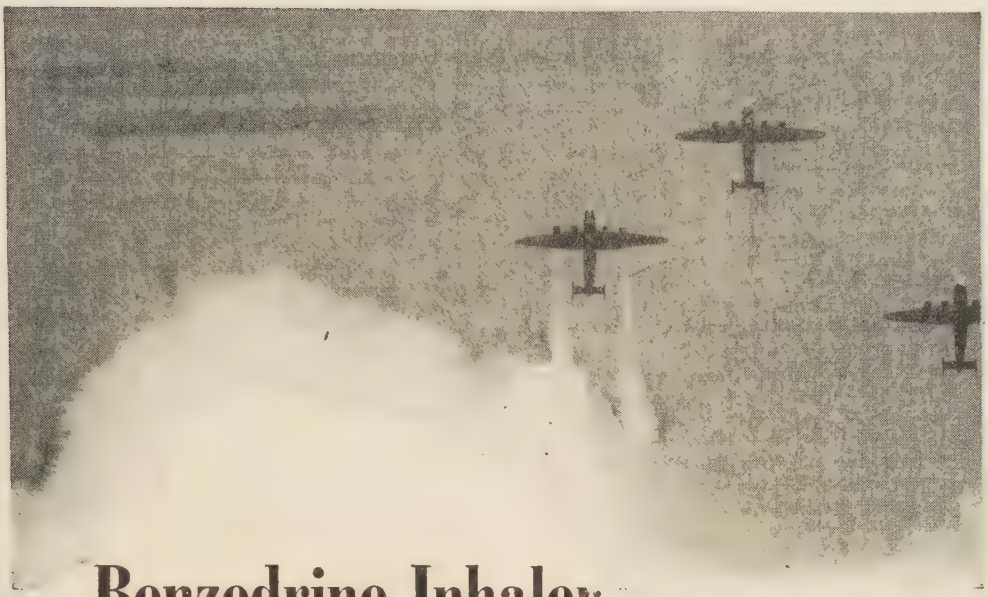

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cilities are available. I may add that Yale University has already entrusted to the Committee books and periodicals published since 1940 which Yale in normal times could have sent to Denmark as exchange or gift.

Although the Committee has no list of the publications issued in Denmark during the war, it seems safe to state that the scholarly output in Denmark during this period has been at least equal to that of normal years.

On behalf of the Committee, respectfully yours,

Harald Ingholt, *Chairman*

Yale Station, New Haven, Connecticut.

Incidence of Communicable Diseases

The U. S. Public Health Service reported that at the end of the first six months of 1944 the general health status of the United States had not changed significantly, although certain communicable diseases were at epidemic levels and others were above normal expectancy.

Meningococcus meningitis and scarlet fever have been epidemic throughout the first five months of 1944.

Meningococcus meningitis has been epidemic since 1943. During the first five months of 1944, nearly 10,700 cases, or an estimated five hundred cases a week, were reported. Epidemics of meningitis, lasting from two to four years, have been reported four times since 1917, with high rates in the winter months and recessions during the summer. The peak years have been 1917-18, 1929-30, and 1935-37, with the present epidemic of 1943-44 rising considerably higher than the previous ones. The current epidemic has reached every geographic section of the country.

Nearly 125,000 cases of scarlet fever have been reported since the first of the year, or approximately fifty percent more than were reported for the same period in 1943. In fact, every month of this year, more cases have been reported than for the corresponding month in 1943. While the disease was epidemic in all regions of the country, the Pacific States had the greatest increase above expectancy.

By the close of May 1944, approximately 530,000 cases of measles had been reported as compared with 430,000 in 1943. During the first four months of the year, the number of cases was higher than for the corresponding months of 1943. However, in May 1944 the number of cases reported was one hundred thousand as compared with 120,000 in May 1943.

Despite local, alarming reports of Rocky Mountain Spotted Fever, cases reported for the country as a whole during the first five months of the year numbered only fifty-five as compared with seventy-five for the same period in 1943, 105 in 1942, and 145 in 1941. In May 1944, a month in which a seasonal rise is to be expected, the number of cases was only about thirty as compared with forty-five in May 1943.

Nearly 1,700 cases of typhoid fever were reported from January to June 1944 as compared with 1,300 for the same period in 1943. Approximately 450 of these were reported in May 1944, or fifty percent above the number reported in May 1943.

Approximately the same number of cases of poliomyelitis—140—were reported in May 1944 as in May 1943, although this figure is higher than those in the preceding three years, 1940-42. For the first five months, an estimated 520 cases have been reported, forty percent less than in 1943.

Other communicable diseases reported were below or at about normal expectancy.

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*Musser, John H., Internal Medicine, Lea and Febiger, Philadelphia, 3rd Edition, 1938, page 1048.

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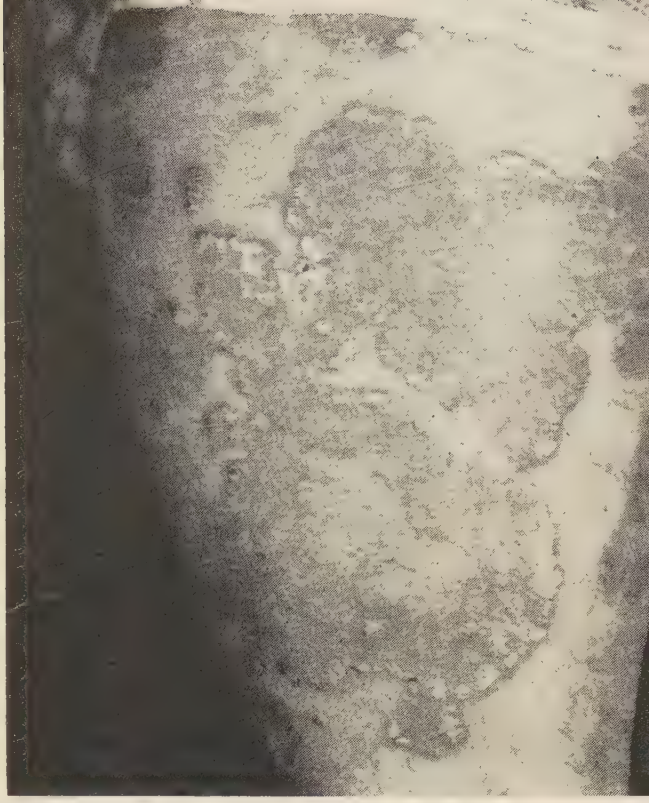

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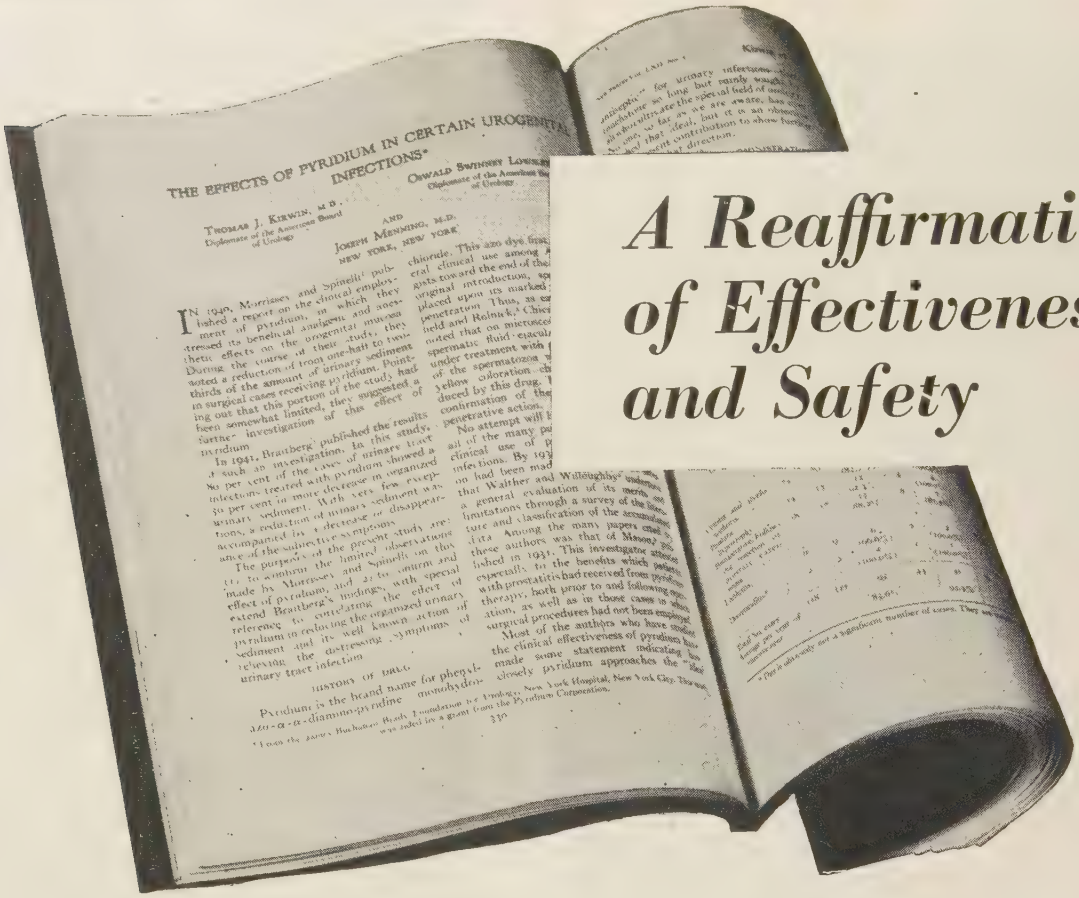
THE EFFECTS OF PYRIDIUM IN CERTAIN UROGENITAL INFECTIONS*
THOMAS J. KIRWIN, M.D.
OSWALD SWINNEY LOWSLEY, M.D.
JOSEPH MENNING, M.D.
NEW YORK, NEW YORK

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Registrants Infected with Syphilis Reclaimed Through Treatment

More than a quarter of a million Selective Service registrants, found unfit for military duty when blood tests indicated they were infected with syphilis, have been reclaimed through treatment, according to an estimate made by the U.S. Public Health Service of the Federal Security Agency. Approximately 125,000 of the men already have enlisted or have been inducted into the armed forces, and 140,000 more are available unless otherwise disqualified.

Symptomatic evidence of syphilis was revealed among 720,000 of the first fifteen million registrants given blood tests for syphilis. The estimates of the number of infected men reclaimed are based on Public Health Service tabulations of data up to June 30, 1943, from twenty-two states on 182,607 of the 720,000 registrants with evidence of syphilis. Statisticians believe that complete tabulations will show about the same proportions of men treated and inducted for the entire 720,000 as in the sample studied.

The tabulations show that: Ninety-three percent of the infected men have been traced by state and local health departments; thirty-eight percent have been made available for active war duty training by the venereal disease control program, with sixteen percent needing further treatment; sixteen percent probably never will be available because their syphilis had progressed to late stages before it was discovered, or because of other physical defects; eleven percent have moved from the jurisdiction of the reporting states; seven percent were not located by health departments; twelve percent were classified in a miscellaneous category, including men who had died, those who had been placed in mental institutions as a result of syphilis, or those whose records were incomplete.

Health Program for Palestine

Admiral Charles S. Stephenson of the United States Navy arrived in Palestine early last month, where at the request of Hadassah, The Women's Zionist Organization of America, Inc., he will make a survery of health institutions and services in Palestine and chart the probable future health needs of that country. Hadassah felt that such a survey was needed immediately in order to lay the groundwork for the vastly expanded health program it contemplates, to prepare Palestine to deal with the health needs of the Jewish refugees who are expected to reach there shortly in large numbers. The work of medical rehabilitation for the Nazi war victims is expected to be so vast and complex as to require a detailed blueprinting in advance by an expert in the public health field.

Admiral Stephenson became acquainted with the work of Hadassah in Palestine on his last trip to the Middle East when he was taken seriously ill and was rushed to the Rothschild-Hadassah-University Hospital in Jerusalem, the largest, most modernly equipped hospital in the Middle East. During his long stay in the hospital, he observed closely the operation of the large network of medical services, both curative and preventive, directed by Hadassah's representatives in Palestine with funds raised in more than five hundred local chapters throughout the United States. His enthusiastic report to the National Board of Hadassah on his return to this country led to a request from that organization that he undertake to examine on the spot the work of Hadassah's present institutions and services, its effectiveness with regard to the general health picture in Palestine, and he was asked further to indicate in his survey what he considers necessary for the expansion of Palestine's health facilities to make it possible to integrate a large, physically exhausted refugee population, while maintaining the same high level of health protection that Hadassah has established as the standard for the country.

Our Contributors

Oscar A. Strauss, M.D., Chicago, Ill., received his degree in medicine from Valparaiso University Medical Department. His postgraduate studies include work in England, Austria and Germany. He was one of the first users of radium in this country, having employed it since 1914. His research in blood chemistry for diseases of later life, especially cardiovascular diseases and cancer, extends over a period of thirty years. In Chicago his hospital affiliation is St. Luke's. The study of hydrotherapy at baths in this country and abroad and agriculture are his pastimes; his hobbies are horses, swimming and baseball.

* * *

Aaron Stolinsky, M.D., San Francisco, Calif., was graduated from the University of St. Louis School of Medicine in 1926. He did postgraduate work in the Universities of Minnesota and Chicago, and also in Vienna during 1932 and 1933. He is a member of the American Medical Editors' and Authors' Association, and has written numerous articles on medical topics. His favorite pastime is collecting medical anecdotes and translating some from foreign languages.

* * *

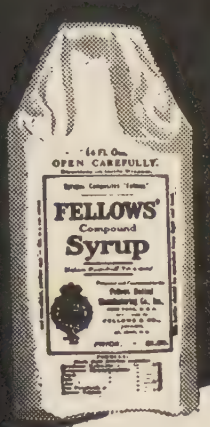
Mark H. Smith, M.D., Glendale, Calif., was graduated from the State University of Iowa College of Homeopathic Medicine and Rush Medical College. He specializes exclusively in treating cardiovascular diseases. He is a member of local and state medical societies and of the American Medical Association.

* * *

Franz M. Groedel, M.D., New York, N.Y., was graduated in medicine from the University of Leipzig in 1914, and obtained his license to practice in the United States in 1934. He is now attending cardiologist to the Beth David Hospital and consultant cardiologist to the Einhorn Department of the Lenox Hill Hospital. He is president of the Rudolf Virchow Medical Society and vice-president of the New York Cardiological Society.

* * *

G. Griffin Lewis, M.D., F.A.C.S., New York, N.Y., was graduated from Albany Medical College in 1890 after which he did postgraduate work for a year and a half at the University of Berlin, Paris and in New York. After finishing his special studies he practiced in Amsterdam, New York, until 1895. He then went to Syracuse, where he practiced his specialty of ophthalmology. He was formerly oculist to the Crouse-Irving, University, and St. Mary's Maternity hospitals in Syracuse. He retired from active practice in April 1939 and since that time has devoted himself to writing. He is the author of five books, two of which are on topics relating to his specialty, two on the subject of oriental rugs, and one entitled *The Book of Roses*. His hobbies are oriental rugs and roses.



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FOREIGN BODIES IN THE EYE

G. GRIFFIN LEWIS
New York, N.Y.

While the majority of people with injured eyes nowa-days consult a specialist for treatment, there are many instances, especially in towns where a specialist cannot be immediately found, when the general practitioner is called in haste to render first aid. Every general practitioner, therefore, should be properly equipped both with the necessary knowledge and instrumentation to meet such emergencies adequately.

When we consider the many hazardous occupations, especially in manufacturing districts, together with the exposed and prominent position of the eyes, we wonder they are not injured more often. Fully twenty percent of the average oculists cases consist of traumatisms, a good share of which are foreign bodies on or in some part of the eye. Railroad men are especially exposed to flying particles, such as hot cinders, particles of coal or glass from bursting water or oil gauges. Boiler makers and mechanics are exposed to pieces of steel or iron, wood workers to splinters of wood, grinders to emery dust, electricians to bursting electric light globes, and stone masons to chips of stone. Even the pedestrian on a windy day may not escape a similar fate.

No other organ of the body suffers more from infection than does the eye, the vascular and lymphatic systems of which are such that pathogenic bacteria or their spores are readily absorbed from direct wounds, consequently slight abrasions on any part of this delicate organ may lead to permanent impairment of its function or even to its total destruction.

Such infection is especially liable to occur in eyes which have some preexisting septic condition such as trachoma, blenorrhea, lachrymal inflammation, etc. Injuries that seem trivial in their nature and of no great importance, if accompanied by infection may become a source of great danger to the patient and much anxiety on the part of the surgeon; therefore, all eye injuries, however trivial they may seem, should receive prompt and proper attention. Railroad men in particular are likely to postpone their visit to the surgeon until after they have completed their run, which often means a delay of from four to twelve hours.

Many factories and machine shops have at least one socalled "mote remover", who in many instances succeeds in removing foreign bodies from the conjunctiva and cornea quite skillfully, but frequently unduly lacerates or destroys the epithelium or infects the tissues with his dirty hands, soiled handkerchief or nonsterilized instruments, thus transforming what would otherwise be a trivial wound into a septic one. Injuries of other parts of the body may heal promptly and leave a scar which is of no particular consequence, but a scar on the cornea interferes severely with vision.

No sadder case comes to the oculist than that of an injury to the eye which has been allowed to go too long without proper surgical aid, with the result that the injured eye was lost. Within a few months, sympathetic ophthalmia seized its fellow and the unfortunate patient has been obliged to spend the remainder of his existence in darkness.

Eye injuries, more than any others, give rise to legal proceedings and many people take undue advantage and make the most of their injury in order to receive greater compensation. This is especially true with people who have never had good eyes or who have some general condition which has been the cause of their eye trouble. For these reasons a thorough examination should be made both before treatment commenced and after recovery, and the findings recorded.

It often happens that vision is perfectly normal, or nearly so, early after the lodgment of a foreign body on the cornea. Later, the patient may claim impaired vision as a matter of policy having in mind a demand for damages. Again, the eye may have been defective before the injury. Such a defect may or may not have been known to the patient, hence the importance of recording the vision before any treatment has been instituted. When an eye has been previously injured or diseased so that its vision is lost or greatly diminished, the other eye is more prone to injury, as a missile approaching from the blind side is not so easily seen, so ascertain and record also the vision of the uninjured eye not only for this purpose but to safeguard against any claim for sympathetic ophthalmia later. Also make a record of the patient's occupation, what he was doing at the time of the injury, just when and under what circumstances the accident occurred, the position of the body at the time and the existence of any general diseases such as diabetes, Bright's disease, etc. Also the nature of the offending missile and the direction from which it came. Ascertain if the eye had ever been injured before and look carefully for old scars and opacities.

After having ascertained all of these facts, examine him for the present injury. Evert the lids and carefully inspect both upper and lower cul-de-sacs. Thoroughly examine every part of the eye, especially noting the appearance of the iris, its size, shape, position and the mobility of the pupil, testing both direct and indirect

pupillary reflexes, take the tension and map out the visual field. With the electrically lighted binocular loupe inspect the whole external surface of the eyeball and then with the ophthalmoscope examine the iris, lens, vitreous, retina, choroid and optic nerve, making a complete record of the findings.

All external wounds should be thoroughly probed to see if any foreign substance is imbedded in the tissues.

The seriousness of an injury by a foreign body depends upon its location, the depth it penetrates, the size, shape and amount of lacerations of the wound and last, but not least, the septic condition of the offending substance.

Traumatisms due to foreign bodies may be classified as wounds without retention of the foreign body, wounds with retention of the foreign body, penetrating wounds, nonpenetrating wounds, clean cut wounds, lacerated wounds, and finally as to location, whether in the conjunctiva, cornea, ciliary region or sclera.

Foreign bodies on or in the conjunctiva are usually of trivial account. They cause very little pain and seldom become infected. Fortunately, their presence immediately stimulates the lachrymal branch of the fifth nerve causing an increased flow of tears which usually wash the foreign substance out. This would nearly always happen if the patient did not immediately rub his eye and thus cause the foreign body to become imbedded into either the conjunctiva or the cornea.

If people can be taught that the best thing to do when anything gets into the eye is to wait a moment until the tears begin to flow freely and then pull the upper lid down over the lower one so that the lashes of the latter will brush away the substance, they will save themselves considerable annoyance as well as money. Sometimes some solution like boric acid, used in an eye cup will wash it out, but if the surgeon's services are required, eversion of the lid and wiping the substance off with a cotton tipped tooth pick is all that is usually necessary. However, if the substance has penetrated the conjunctival tissue and cannot be easily picked out with a spud, the best way is to pick up the foreign body with a small part of the membrane and snip off with a pair of scissors. No conjunctival suture is necessary.

Of course it is understood that before any attempt at removal of a foreign body from any part of the eye is made the eye should be anesthetized. Right here it might be well to refer to the most desirable remedy to use for this purpose. Cocaine is an irritant to the terminal sympathetic nerve fibers and has a vasomotor effect and therefore dries the cornea and makes it a trifle hazy. It also dilates the pupil and paralyzes the accommodation which effect may last from four to six hours. Holocain acts quicker, penetrates deeper and does not affect the eye in any way other than to anesthetize it. It is also a strong antiseptic and is therefore the ideal local anesthetic to use in these cases. Combine with the holocain, or use separately, a solution of adrenalin to prevent bleeding from obstructing the view of the foreign body.

Foreign bodies on the cornea are of most frequent occurrence inasmuch as that membrane occupies the most exposed portion of the globe. They may be lying on the surface or imbedded in the tissue. If not deeply imbedded, they can often be removed by a horse hair loop or a cotton tipped tooth pick. If imbedded, dig it out with a spud, but be sure to remove thoroughly any stain which it may have caused. This is not always an easy matter, especially if the substance has passed nearly through the cornea or may be projecting into the anterior chamber. Great care must then be taken not to push it into the chamber. Often it is necessary to pass a small knife through the limbus of the cornea into the chamber and make counter pressure from beneath while extracting it.

Superficial corneal wounds, if not infected, usually heal perfectly within twenty-four to forty-eight hours without leaving any opacity. If, however, the wound is deep or lacerated or the foreign body septic, ulceration with resultant opacity may occur and if it happens to be within the pupillary area, serious loss of vision may result.

It is not uncommon to find a foreign body on the cornea, causing inflammation, where it was not suspected by the patient. He may not have felt it when it entered the eye and consults a doctor on account of an irritation or inflammation of that organ. For this reason I make it a routine practice to inspect carefully with the binocular loupe, all inflamed eyes, for if such a condition is overlooked eye lotions will do no good and serious results may follow.

There are so many organisms lurking in the conjunctival sac that small abrasions are especially liable to septic infection, which may result in ulceration of part or whole of that membrane; therefore, never fail to prescribe some good antiseptic lotion, preferably argyrol, twenty percent.

Injuries in the ciliary region, that part extending about one quarter of an inch from the corneoscleral margin, are always to be regarded as of grave significance, especially if the wound is a lacerated one or the foreign body is septic, inasmuch as they are apt to be followed by a long continued plastic inflammation that in some unexplained manner starts a sympathetic inflammation of a similar nature in the uninjured eye, followed by the most intense irritation, pain, lachrymation and photophobia on account of the extreme sensitiveness of the ciliary nerves and the constant contraction of the muscles.

Small foreign bodies in the sclera may not always be visible on account of the presence of blood and the thickened conjunctiva over them. When located, an incision can be made through the conjunctiva and the substance removed with a spud or forceps. Scleral wounds, as a rule, heal rapidly if the conjunctiva is sutured over them. Never suture the sclera itself. Perforating wounds of the sclera are dangerous, especially if there is much loss of vitreous or the foreign body is septic. This will be further considered under the heading of foreign bodies within the vitreous.

Foreign bodies within the anterior part of the eye are much less serious than those in the posterior part or vitreous chamber. In the former location they are, as a rule, easily removed, while in the latter it is a much more difficult matter and in many cases the attempt at removal does more harm than the presence of the substance.

Foreign bodies in the anterior chamber can generally be removed with the magnet, forceps or grooved hook through an incision made with a keratome at the corneal limbus. If the procedure is not successful a piece of the iris with the foreign body is made to prolapse through

the corneal wound and snipped off with a pair of scissors.

Foreign bodies in the iris are comparatively rare for the reason that a body striking the eye with sufficient force to penetrate the cornea usually retains enough impetus to pierce the delicate tissues of the iris. If a foreign body should become lodged in the iris, however, it can be removed by drawing that membrane out through an incision in the limbus and clipping it off as previously described.

All prolapsed iris should be withdrawn sufficiently so that when cut it will retract wide of the corneal wound and thus prevent adhesion to the cornea or subsequent prolapse. This can be more surely prevented by cauterizing the corneal wound with the galvanocautery and using eserine to contract the pupil.

The crystalline lens has proved itself to be most tolerant of foreign bodies. A rent in its capsule, allowing the aqueous to invade the lense substance will result in an opacity of the lens (traumatic cataract). Sometimes a severe concussion, without laceration of the capsule, will be followed by the same result.

Operative intervention in the beginning is not advisable unless there is urgent indication for the removal of the lens, otherwise we may wait until the cataract is fully formed and the inflammation has subsided before extracting it with the foreign body.

Foreign bodies within the vitreous are especially liable to infection, which as a rule will make itself manifest within twenty-four to thirty-six hours, by haziness of the media and a peculiar yellowish discoloration either in the aqueous or vitreous chambers, together with general chemosis of the conjunctiva. There may also be a dimness of vision, a scotoma or limitation in the visual field and more or less ciliary pain. The ophthalmoscope may also reveal blood or opacity within the vitreous or the presence of a finely speckled appearance of the macula, which is common even when the foreign body lies at a considerable distance from that portion of the eye.

Search for the point of entrance should be made as its location may sometimes help in determining the approximate position of the offending substance. Sometimes when steel or iron are lying just behind the tunics, their exact location may be determined by passing the magnet tip over the whole surface of the eye, alternately turning the current on and off, watching closely for a slight bulging at any particular point, also instructing the patient to tell you if at any time he experiences a pulling sensation. If the exact position of the foreign body can be determined by the magnet or with the ophthalmoscope, attempt at removal should be instituted at once, providing the substance is accessible.

An incision through that portion of the sclera nearest to the foreign body followed by the introduction of a fine magnet tip, in case the substance is iron or steel, will generally meet with successful extraction. Magnet operations, however, are not as a rule successful unless done within a day or two after the injury and before the substance becomes covered with lymph and more or less fixed and then even if successfully removed, it drags so on the surrounding tissues that inflammatory reaction follows. If the site of the offending substance cannot be accurately determined, if it is inaccessible or nonmagnetizable, operative procedure should be deferred as long the eye remains quiescent.

Inasmuch as we often see useful eyes containing foreign bodies, and inasmuch as useful vision does not so frequently result after attempted efforts to remove the foreign body, it is better to adopt a certain degree of conservatism in regard to their extraction, watching closely for symptoms of sympathetic inflammation, which watch must be maintained for the remainder of the patient's life. In exceptional cases a foreign body may be tolerated in the vitreous for years, either free or enveloped in an exudate within the otherwise clear vitreous but it is always a menace to the integrity of the eye.

Latent microorganismal infection may become active at any time or slow degenerative changes may ensue. It may at any time work loose from its bed, sink to the bottom of the chamber or on the ciliary body causing trouble or, if permanently encapsulated, contraction of the newly formed tissue with changes in the anatomical relation of the structures may take place causing blindness or sympathetic ophthalmia. The longer a foreign body remains in this part of the eye without causing trouble, the less likely it is to do so after the first few months. Nevertheless, all patients with foreign bodies within the eye should be warned that with the first setting in of photophobia, lachrymation, blurring of vision, pain, redness or tenderness of the globe to the touch, he should without delay consult the oculist and have the offending organ removed.

The aqueous may be lost and replaced but the vitreous is never replaced; therefore, when a scleral wound is large enough to allow prolapse of the vitreous, the latter should be clipped off close to the tip of the wound which is protected by suturing the conjunctiva over it. If the wound is too large to be securely sealed by the conjunctival covering, enucleate at once.

Double perforating wounds of the globe even with the retained foreign body behind it, such as bird shot, for instance, are compatible with comparatively small amount of damage to function.

Occasionally a foreign body penetrates the orbit between its wall and the eye ball. Because of the loose cellular tissue contained therein, a foreign body of good size may be imbedded without external indications except perhaps the wound at the point of entrance. If aseptic, it may remain there without doing much harm or it may set up a cellulitis, periostitis or necrosis. If it penetrates the roof and passes into the cranial cavity meningitis or brain infection follow.

Subconjunctival ecchymosis immediately following the passage of a foreign substance into the orbit is not of much importance, but should it occur several days later, the significance is grave as it indicates a fracture of the skull wall in the anterior fossa.

Conclusions

1. All eye injuries, no matter how trivial, should be treated as serious until all danger of infection has passed.
2. The importance of keeping full notes of cases, including records of vision and abnormal conditions from time of injury to time of dismissal.
3. Educate patients not to rub their eyes when a foreign body gets in them.
4. Use holocain as a local anesthetic.
5. Inspect all inflamed eyes with an electrically lighted binocular loupe.

6. After the removal of a foreign body from the eye always prescribe an antiseptic lotion for home use.

7. Always dilate the pupil after penetrating wounds and after nonpenetrating wounds followed by much reaction.

8. Never suture the sclera or cornea but suture the conjunctiva over the sclera, and over the cornea when the wound is deep and peripheral.

9. Eyes which have been injured by a foreign body should always be x rayed.

10. Use the magnet as a means of locating foreign bodies.

11. Never attempt to remove a foreign body from the vitreous chamber unless its exact position is accurately determined and it is accessible.

12. Never fail to instruct your patients as to the symptoms of sympathetic ophthalmia and warn them to consult an oculist as soon as any of these symptoms are manifest.

13. Be conservative in regard to the extraction of foreign bodies from the vitreous chamber.

14. Do not fail to enucleate the offending organ as soon as sympathetic symptoms show.

1126 WALTON AVENUE

MAN'S EVOLUTION

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In comparing a biped, such as man, with a crawling or fourfooted form of remote ancestry, it is noted that a marked benefit resulted from altering the physical support of the liver.

Man quite naturally accredits his pulmonic type of respiration as being superior to the gill method of absorbing air. However, certain tropical fishes possess lung modes for breathing and some of the quadruped species, such as salamanders, display lungs on the outer surface of the thorax.

In the erect animal the liver broadens out to be supported upon an intestinal cushion of gas. Here the flat superior surface distributes lesser shocks that may be communicated from above. No better illustration of the merits of a centralized heating and distributing system is shown than in the location of the liver in both bipeds and quadrupeds, and the larger animals display it to the best advantage.

An important function of the liver is the production and standardization of bodily temperature. In the erect animal fuel for the liver is provided from areas adjacent to the inferior surface. The broad, flat superior area may be compared to a heated pad which provides a constant and equable warmth. From its centralized core, heat, as from a hot water system, is conveyed by a short, direct, pipe-like form of delivery to a pump. This distributes the supplied fluid over a large radiating surface of lung alveoli.

A marked conservation of heat energy is provided through a nonangulated and frictionless conducting vein, to return by the pulmonary vein, as arterial blood, to the propelling heart pump. This is a place of the greatest advantage, for oxidizing substances derived from the liver, abdomen and other portions of the body are poured into the right auricle. At such cardiac portal, too, there enters a highly concentrated flow of lymph. Here is formed a venous mixture which follows a short and direct route to an aerating pulmonic field.

In a way this is comparable to the carburetor method used in mechanical gas consuming engines. Fuel with a content of hydrocarbons will mix with oxygen under a sea level pressure of fifteen pounds. This, too, compares with the fuel pump pressure in automobile use.

Within the lungs, exchange occurs in the exhaust of consumed gas as a carbonized acid mixture which is then diluted in excess by free oxygen. Oxidizing methods quickly ensue within the nearby centralized liver lobules as in more distant areas, particularly in the muscles.

Not until such solutes as water, oxygen, crystalloids and ions are osmosed through semi-permeable membranes of viable cells, does there follow functional processes which denote the presence of life. Cells can express life only by virtue of a resident viability within their cytoplasm. Functions expressed by living cells may be regarded after the manner of symptoms as symbolizing a content of power derived from an unknown source.

Because of our inability to understand this occult property, we grope for suitable expressions for its definition. Science accepts a term such as energy, which, however, fails to contribute little more than dodging an issue. It does, however, declare for a manifestation of some sort.

The living process within the cell is only one manifestation of a property which is expressed in a variety of ways. These include all the phenomena designated as natural processes. In physical form to Newton it was seen in the falling apple. To Watts it appeared in steam lifting a kettle lid; to Franklin it was a spark from a metal key on a wet string attached to a kite flown to a thunder cloud; to Edison it was a light in a vacuum tube.

But these demonstrations, which are recorded under the name of physics, are of more unmistakable type in biochemical or physiological exhibitions. But, energy is also demonstrable by or through psychic attributes regarded as only recognizable by means of mental processes.

For such we must first establish a premise for the benefit of advances. This by the cut and dried system which relates physical effects of energy with the psychic efforts in attempts to understand how and why living energy is held within dense elements as minerals or invisible forces in gas.

Expressions of this subtle property of energy appears as a chemical manifestation to one, a biochemical reaction to another and perhaps horsepower to a third. However, we lack methods for measurement of psychic or mental energy, as yet no one speaks of mental watts or equivalent of divisioned horsepower. Science in an attempt to resolve the problem into simple equations makes use of terms of valence, positive and negative principles, cycles, phases, electrons and protons.

To the school boy the phenomenon may appear as a "push and pull" of the rotor of the electric fan, or the tap of a telegraph key. To a chilled bather stepping out from the shower it is warmth from a reddened wire.

All such manifestations are convertible by chemical effects which in one instance toasts bread at the breakfast table and in another burns sugar in the blood stream. The physical is immediately converted into the physiological and this in turn from a mental process which places a slice of bread in a toaster or tastes sugar. It is the selfsame form of energy in the form of an expression whereby various effects are produced, and within its strange exploitation there is neither gain or loss in any demonstration whether mental or physical.

For display of energy within the animal body nature's efforts are directed to the use of substances in one of two forms and these either singly or together. These are physical states of matter being termed colloids and crystalloids. The first undergoes minute subdivision and forms mixtures, while crystalloids dissolve and form solutions. These forms respond to biochemical or physiological effects which largely depend upon the property of arrest or transmission through a suitable dividing membrane. This functions in a rather remarkable manner as though it possessed the privilege of choice of action. Membranes of the animal body as semipermeable films permit the osmosis of soluble substances and hold insoluble material fixed on or in outer surfaces.

In general, colloids, as protoplasm and lifeless in substance, may undergo such repeated subdivision as to appear as though crystalloidal substances and so soluble.

As subdivision continues, the area increased within colloidal surfaces represents an energy which has been increased by reducing sizes which also increases surface areas. This inner pressure represents in each colloid the atmospheric pressure within which the animal exists. This is a normal state, but it may be subjected to greater stress by the equivalent of pathological effects. It is an increased internal response with each rise of blood pressure, being oscillating in such measure as to effect an average between extremes of readings.

Colloid substances, being protoplasm, must have a source and this is found in amino-acids. These are organic acids, crystalloidal in character. In consequence, colloids in being the product of solutes or crystalloids undergo reversible effects through chemical attack and return to component elements. In the ensuing reaction through membranes, certain substances resolve into composing ions some of which pass through the barrier. Restoration of cytoplasm can thereby be effected within the cell wherein, presumably, only ions and crystalloids enter. In such reactions, energy is released with the appearance of free ions and atoms which may be in the form of heat.

Molecules which form under the influence of catalysts must respond to an equal effect in being decomposed by loss of combining element or the effect of opposing catalysts. Catalysts have no effect except to act as whips or spurs for inciting chemical responses. These are then effective as potentials such, for instance, as simple energizing elements or effects. As an instance, the production of a spark by rubbing silk, or the magnetic effect by using amber may be mentioned. In physics, a similar instance is stimulating clotting by means of twigs in the blood, and producing fermentation by yeast. Innumerable are the examples which may be mentioned. There is no way by which catalysts may be singled out as specific elements.

It is questionable if any physical, chemical or other effect is not of catalytic influence. Water, oxygen, or any element alone or combined, may express catalytic influence in some certain way. In the animal body these catalytic influences are usually designated as hormones, enzymes, vitamins or glandular extractives produced or held in the cells or fluids of the body.

Chemical combinations respond to electronic effects largely by the effect of water and oxygen acting as catalysts. For example, by the addition of oxygen to water ozone is formed, which has marked oxidizing effects. By such a combination osmotic change is readily and quickly effected. Combinations, which in themselves may appear nondiffusible, may, with oxygen as a catalyst, become diffusible. Like effects relate to the influence of water or fluids.

Mental or psychic effects ensue quite as readily as physical effects as may be demonstrated or observed in cerebral states, delirium, allergy, vasospasm or angiospastic conditions.

The benefit effected by water as a catalyst is largely one of stimulating osmosis. A remarkable effect obtained is in water or other catalyst acting to convey organic acids through an alkaline medium. Oxygen performs the same duty, as shown particularly in respiration, which is a generalized or systemic function, for all cells accept oxygen and discharge carbon dioxide as an equivalent to breathing.

While it is true that one may make statements which stand until disproved, however, in the fact that biochemistry governs all reactions, the scale balances as metabolism operates.

Anabolism, as a positive effect, is a constructive process, while its opponent, catabolism, is destructive. Reversal effects are no more of a problem than creative.

There is no instance in mental conception, as formation, which cannot respond to the effects of dispersion. The mind which is capable of evolving must as well have a capacity for resolving conditions to formative concepts. In so far as human perception can advance, there are footprints by means of which retreat may be provided. The mind can create no puzzling code which mentality cannot solve.

The combining of two separate parts creates union, life is implanted, growth follows, death ensues, and all physical parts return to the dust which has been gathered and then dispersed. Meanwhile, the unsatisfied element of life continues in search of some evolutionary attainment, What?

1508 GRANDVIEW AVENUE

Medicine and Wars

Dr. David J. Davis (*Diplomate*, January 1944) says that it is an interesting fact that no wars of significance have ever been waged over medical problems. People have fought over about every other problem imaginable. Wars over religion, over commerce, trade and industry, over boundaries, over races and sects, over royal and legal decrees, over social and economic questions, but never over medicine. In fact, medicine has been throughout the centuries one of the great unifying agencies to bring the peoples of the earth together.

SURGICAL EMERGENCIES

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Wounds of Chest and Abdomen

Injuries to the thorax and abdomen commonly involve hemorrhage. There are fundamental differences, according to Harrington, in the occurrence and disappearance of hemorrhage in these two cavities. The blood pressure in the pulmonary circulation is about a sixth of that in the abdominal circulation, a fact which renders bleeding in the lungs more easily controlled than in the abdomen.

Thorax.—Open pneumothorax exerts a serious effect on the heart through the flapping of the mediastinum which is drawn over to the sound side on inspiration and forced back again on expiration. Of greatest importance in mediastinal flutter is its interference with continuous flow in the great veins leading to the heart. Systolic output depends on diastolic inflow and the mediastinal flutter causes periodic obstruction to both the superior and the inferior vena cava, which results in serious circulatory disturbance.

In closing an opening in the thoracic wall one should watch the patient carefully for the presence of tension pneumothorax which is due to an injury to the lung or bronchi resulting in a valve-like action which permits air to enter the pleural cavity but not to escape. This demands immediate treatment by release of this air through the wound. Pneumothorax may be encountered in injuries associated with a closed thoracic wall. In these cases it is treated by inserting a needle and withdrawing the air.

Two other important considerations in open wounds of the thorax are the rapid loss of heat associated with these wounds and the great danger of infection. Life often depends on the immediate closing of the wound in the thoracic wall. Closure is best done by placing sterile gauze over the opening but usually this is not available in an emergency. Any clean cloth that can be obtained should be placed over the opening and may be fixed by adhesive tape if that is available. If not, the cloth should be held in place by the hand. If material is not available the wound can be closed by the hand alone. This closure should be maintained until the patient is hospitalized. If there is a very extensive gaping wound which cannot be closed and the patient is in extremis, life may be saved by pulling the lung up into the wound. This procedure stabilizes the mediastinum and permits the heart to function.

Abdomen.—Often the most serious wounds of the abdomen demanding immediate attention are open wounds associated with evisceration. The most common advice is not to replace the intestine into the abdomen. This, however, should not be a hard and fast rule. If there is injury to the eviscerated intestine with leakage of the intestinal contents or contamination of the intestine it is best not to replace it in the abdomen. It must be borne in mind, however, that it is a great risk to permit the viscera to remain outside the abdomen because of the drying out of the intestine and its fixation to any covering placed over it. If the intestine is not injured and there is no evidence of gross contamination, it is best to replace it. It is imperative to do so when the abdominal wound is associated with laceration of the diaphragm which permits the entrance of air into the pleural cavity.

Blast Injury

A distinct clinical and pathological syndrome known as "blast injury", produced by sudden changes in pressure accompanying explosions, was investigated by Surgeon Commander E. P. Williams, of the British Royal Navy. Characteristic symptoms include hemoptysis, chest pain, dyspnea, and cough.

The patient with "blast lung" nearly always is in shock, and this may be the only finding for the first few hours after injury. Pallor, cyanosis, subnormal temperature, rapid pulse, and rapid shallow respirations usually occur. Later, râles can be heard, and patchy areas of consolidation or pleural effusion may be demonstrated by physical examination and on roentgenograms. Some patients also have generalized pain in the trunk.

"Blast abdomen" with signs of an acute abdominal condition is sometimes seen; most of these patients recover without surgical intervention. Brain and spinal cord concussions due to blast are similar to other concussions; rupture of the membrana tympani is common. Chemosis is relatively frequent, although hemorrhage into either the anterior or posterior chambers of the eyes are also seen.

The sensation produced by blast injury is that of a sudden blow on the chest and abdomen. Blast pressure greater than two and one-half pounds per square inch is the most that can be withstood without loss of efficiency. Unpleasant effects can be noted even by men serving behind the guns. Higher pressures are necessary to cause intraabdominal injury than lung damage. However, if the abdomen is protected from the blast, the degree of lung injury is much less, indicating that transmission of the pressure wave through the diaphragm to the lungs is probably as harmful as the direct blow to the chest.

The most common lesions consist of hemorrhages in the lungs, especially on the phrenicocostal margins, and damage to other gas-filled organs. The degree of pulmonary involvement is found to be indirectly related to the distance from the explosion. Other abdominal lesions are kidney, spleen and liver lacerations and subperitoneal hemorrhages.

Treatment is difficult since most casualties show signs of shock while at the same time pulmonary edema precludes the administration of intravenous transfusion; venesection to relieve pulmonary edema is contraindicated when shock is present. Continuous oxygen, preferably by nasal catheter, strict bed rest, and heroine in one-eighth grain doses are indicated. Isolation and other measures to prevent airborne infection are important, although the use of sulfonamides as a preventive of infection is best avoided, since the toxic effects may increase the danger already present.

If operation should be necessary, local anesthesia is preferable if adequate relaxation can be obtained, otherwise nitrous oxide and oxygen is the choice. Spinal anesthesia should be avoided because of the depressant effect on blood pressure.

Symposium on Cardiology

THE HEART IN PREGNANCY*

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Pregnancy is a physiological state. We can therefore expect that the human body and its component organs would be capable of adjusting themselves after delivery.

The burden of pregnancy lies mainly upon the heart. The mother's heart must nourish the developing body of the fetus by delivering blood to its circulatory system, which, towards the end of pregnancy, consists of many thousands of miles of pipelines. The fetal heart may be regarded as an auxiliary engine for the transportation of blood, since the arterialization of the fetal blood is managed solely by the mother's lungs.

The mother's total blood volume is increased by about one liter (Hansen, 15) during pregnancy. At the same time the dilated veins in the pelvis and the legs form a new blood depot (Barcroft, 1). However, the venous return to the heart becomes greater and the minute output is increased to about twenty-five to thirty percent (Hansen, 15). The circulation time is not changed (Steger, 38). Stander and Cadden (37) have estimated that the work of the heart increases steadily due to the increased blood flow during pregnancy to a level at full term of about fifty percent above the nonpregnant state.

An important factor which increases the blood flow and the work of the heart in the pregnant state is the placental circulation, the effects of which Burwell (5) compares with that of an arteriovenous aneurysm. As a result of the augmented work of the heart an increase of heart size due to hypertrophy can be expected. Müller (29) in 1912 and later Frey (8) reported x ray findings supposedly confirming this assumption.

The problem was studied recently by Hollander and Crawford (19) without more enlightenment. Eighteen pregnant women were studied from the early months of pregnancy to their postpartum periods by serial roentgenological studies in the posteroanterior, left and right oblique views as well as esophagrams. The transverse diameter of the heart was increased during pregnancy. The authors feel, however, that "as the diaphragm becomes elevated, it is difficult to assess the relative value to be placed on shift of position or increase in blood volume". The same should, however, be kept in mind, when the authors report that, "the outstanding roentgenological change was an indentation of the anterior wall of the esophagus". It is not at all certain that minor changes in the shadow of the esophagus can be attributed to an increase in the size of the heart. It does not seem possible to really ascertain the relatively small changes in the dimensions of the heart which we could expect. Autopsy examinations (Hirsch, 20) showed no hypertrophy of the heart in pregnancy. The assumption that pregnancy leads to a working hypertrophy (*arbeitshypertrophie*) of the heart, which was accepted almost unanimously by physicians about a century ago, must be abandoned, as was pointed out by C. Gerhard (10) in 1858. We may, therefore, conclude that the physiological circulatory changes during pregnancy are so well counterbalanced that they do not lead, as a rule, to an abnormal overburdening of the heart.

A real strain on the heart under normal conditions, and more so in the presence of cardiovascular disease, is caused by the dimensional changes in the abdominal and thoracic cavities, whereby the diaphragm, stomach and liver are displaced upwards. Although the movements of the diaphragm, an important auxiliary circulatory mechanism, are diminished, the minute volume of respired air is increased (Schroeder, 35). The most important consequence of the changed abdominal situation is the diminished capacity of the liver as a blood reservoir. The capillaries of the body are poorly filled; the capillary blood stream is lowered (Nevermann, 31), the capillary pressure is unaltered (Hinselmann, 18). Another consequence of the dimensional changes in the abdominal cavity is the increased turgidity of all the subcutaneous tissues, due principally to a reduced water elimination by the kidneys, as a result of pressure upon the ureters or dislocation of the kidneys. A contributory factor for this pre-edematous stage may be an altered capillary permeability. The function of the endocrine system is of course altered to a high degree (Haupt, 16), and is probably the cause of the vasolability we observe during pregnancy.

Clinical observations show that blood pressure and pulse rate are relatively little changed during pregnancy (Jaschke, 22). The increase in blood pressure and pulse pressure amounts to an average of only ten percent (Plesch, 34), and can be explained by the increased systolic discharge of the heart. Heart murmurs are found in fifty percent of all cases, but organic murmurs in only eight percent (Pankow, 32). They usually disappear after childbirth and probably are the consequence of the high position of the diaphragm, which changes the blood flow in the big thoracic veins. They may, however, be caused by blood changes. Anemia is a frequent occurrence in pregnancy (Mull and Bill, 30) reaching its maximum after the fifth month of gestation (Bill, 3).

Finally, the electrocardiographic findings should be mentioned. Smith (36) reported, for instance, the appearance of left axis deviation only during pregnancy. Similar observations were reported by many others. Pardee (33) found a deep Q-wave in Lead III, Konki (25) and Carr and Palmer (6) inversion of T in Lead

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III. Hollander and Crawford (19) reported "the principal electrocardiographic changes were the frequent development of a deep Q-wave and negative T-wave in Lead III. The electrical axis changed, on the average, fifteen degrees." These changes are due to the fact that during pregnancy the heart is not only shifted transversely, but is also rotated on its long axis.

While most of the physiological changes disappear after delivery, the heart minute-volume remains higher for many weeks (Schroeder, 35). This explains why patients with severe heart conditions often die some time after delivery. We might also note that after delivery the blood pressure often increases to a considerable degree (Plesch, 34).

According to various reports, the mortality of women with cardiovascular diseases in childbirth varies between a fraction of one percent and thirty-three and one-half percent. The great discrepancies in the figures are, of course, the consequence of the difference in the material upon which the statistics are based. Fromme (9) states that in 2130 pregnant cardiac patients 244 (11.46 percent) died. Jaschke (21) found that among 37,014 deliveries 1548 were from 546 cardiac patients, and only one or 0.32 percent died. According to Hamilton (14), cardiacs contributed fifteen percent of all maternal deaths in the Boston Lying-in Hospital during the last seventeen years. The maternal death rate in the unfavorable heart cases were sixteen percent, for the private cases about twenty percent, for the cardiacs with auricular fibrillation thirty-three and one-half percent. Even for the socalled "favorables" the death rate was not negligible.

Mitral stenosis belongs to the group of serious cases. Among these Kautzky and Traugott (24) experienced a twenty-eight percent mortality. This figure is in fair agreement with Hamilton's thirty-three and one-half percent mortality in patients with fibrillating auricles.

According to the statistics, we may assume that the average mortality of all cardiacs during pregnancy amounts to about ten percent, in the unfavorable cases to about twenty percent, and for the serious cases to thirty-three and one-third percent. This is no doubt a high mortality when compared with the average one-half percent general mortality in childbirth.

A discrepancy similar to that for the mortality rate exists regarding the aftermath effects of pregnancy in cardiacs. Jensen (23), for instance, denies aftermath effects altogether. Wattson and Herrick's statistics in contrast give a most depressing picture. Among 240 rheumatic heart cases seventeen patients (seven percent) died soon after delivery; nine (four percent) died during the first year thereafter; six (two percent) died during the second year, and so on. In other words, seventeen percent of the mothers did not survive the second year after having given birth to a child.

Even considering the fact that the life expectancy in certain rheumatic heart cases—surely not in all—is a poor one, we must say that a heart which could stand the extra burden of pregnancy should at least hold on much longer than two years. We agree with Hamilton that delivery is a final insult rather than a saving relief to severely overburdened hearts in the last months of pregnancy. The seventeen percent, therefore, of the mothers who die during the first two years are surely the victims of pregnancy. To arrive at more accurate figures, we must add this seventeen percent to the mortality rate during pregnancy. Thus we may estimate that in the severe heart cases the mortality during and soon after pregnancy amounts to about fifty percent. This fact no doubt merits careful consideration.

It is of course self-explanatory that the diseased circulatory system is not as fit as the normal to maintain the balance under the extra circulatory burden: the increased blood volume, the additional placental circulation, the changed blood chemistry, the disturbed endocrine condition, the dimensional changes in the thorax and the abdomen, especially the elevated diaphragm with its consequences upon pulmonary, kidney and liver circulation.

The usual consequence, therefore, of pregnancy in cardiacs is congestive heart failure, occasionally only in the form of dyspnea, mostly combined with moist râles at the bases of the lungs. Pulmonary embolism, which accounts for eight percent of deaths in the statistics of Hamilton, and pulmonary edema occur frequently.

A remarkable and important observation is the fact that bacterial endocarditis frequently develops in pregnancy. Gerhardt (11) reported active endocarditis in fifty-five percent of the postmortem material; Frey (7) in eighty-two percent. Hamilton had a death rate of eight percent due to bacterial endocarditis. Taddeo (39) reported a case of malignant endocarditis following abortion.

How misleading it would be to place too much importance upon the observations in a single hospital is illustrated by the report of Mendelson and Pardee (27) concerning their experience with twenty pregnant patients who had congenital heart disease. The twenty cases represented 1.89 percent of 1,089 instances of organic heart disease in approximately thirty-one thousand obstetrical cases. The particular defects in these cases were labeled as follows: pulmonary stenosis in eight cases, interventricular septal defect in four, coarctation of the aorta in three, patent ductus arteriosus in two, patent foramen ovale in one, congenital defects unclassified in two. Only one patient had congestive failure during pregnancy; the remaining nineteen did not appear to suffer any ill effects.

In the serious cases of congenital heart disease, the patients usually do not reach marriageable age. On the other hand, it is difficult to make a definite anatomical diagnosis in perfectly compensated patients with minor congenital heart lesions. Patients with pulmonary stenosis always have congested lungs and it is hard to believe that these patients could go through pregnancy without developing signs of severe congestive heart failure.

All the mentioned factors, acting as an extra burden upon the circulatory system, reach their maximum at about the end of the seventh month. After that they decrease, probably because the diaphragm lowers its position. This is the principal reason why hearts that have not already failed under the load of pregnancy seldom fail during ordinary labor or operative delivery. The second, individually varying factor, is a psychic one, the courageous attitude of the expectant mother towards labor.

After completion of the delivery, however, the danger increases again, the circulatory system being forced to readjust itself from pregnancy to the normal. This is much more difficult, since the change from the normal into the pregnant state is a slow one, the return to nor-

mal a sudden one. Considering these facts we understand why cardiacs die less often during delivery but more often before the end of the seventh month or soon after delivery.

The number of heart patients who go through the whole term of pregnancy is neglected in most statistics. We found only one such report. Marcellus (25) reported in 1915 on 9895 pregnancies, among which there were 554 or 5.6 percent heart patients. Of these 554 women twenty percent died. Pregnancy had to be interrupted because of decompensation in 45.5 percent; spontaneous premature birth occurred in 12.5 percent; delivery at the normal time occurred in only 37.7 percent. Also, usually not considered, is how often the circulatory system is responsible for death due to eclampsia. Haupt (17) reports that seventeen percent of these victims of pregnancy show a patent foramen ovale.

It is not my intention to augment the existing statistics by presenting new ones. The influence of pregnancy upon the diseased heart can be much better shown by striking examples.

There are three groups of heart patients who are especially endangered by pregnancy, namely, the congenital, the rheumatic, and the hypertensive.

The normal pregnant state has never resulted in heart disease. Many latent or previously unrecognized heart conditions, however, become manifest during pregnancy or after delivery.

The socalled functional disturbances, such as vasomotor imbalance, neurocirculatory asthenia and so on, are not, as a rule, aggravated by pregnancy but more often are improved, if not even cured. This also holds true for minor endocrine disturbances combined with heart symptoms. Hypertension in the ordinary age group of pregnant women seldom comes under the heading of heart disease. Hypertension in pregnancy is no doubt a problem in itself.

Browne and Dodds (4) examined the histories of 239 pregnancies in 222 hypertensive patients. Exacerbation, albuminuria, edema and the like occurred in 17.9 percent of the pregnancies. The blood pressure was elevated above the pre-pregnancy level in eighty-two percent. The exacerbation seemed more likely in patients thirty or more years of age than in those less than thirty. The natal and neonatal mortality was 16.2 percent. If a patient's blood pressure at the start of her pregnancy was 150/100 she had a thirty-two percent likelihood of a successful pregnancy and of giving birth to a living child. Tests of renal function were of little prognostic value. The most valuable seemed to be the blood urea. Findings of more than thirty mgm. at the start of pregnancy are prognostically very unfavorable.

Case Reports

CASE I.—This case demonstrates that an erroneous diagnosis can often produce unnecessary alarm in a pregnant patient. The patient, S. W., twenty years old, had had one bout of rheumatic fever and was always inclined to fainting spells. For many years her condition had been diagnosed as a mitral stenosis. The x ray pictures, electrocardiogram and heart sounds were, however, normal. Diagnosis: asthenia and psychasthenia. The patient went through an uneventful pregnancy delivery. Afterwards her general condition improved markedly. Such cases, of course, lead to wrong conclusions in statistical studies.

CASE II.—G. O., aged thirty-two. In this case, the diagnosis was incomplete. At nine years of age the patient had a severe case of diphtheria. She had one child. When she later suffered from a sore throat the physician told her that she had a heart block. Therefore, when she became pregnant again a therapeutic abortion was performed. Two years afterward she suffered a miscarriage in the second month of pregnancy. After having studied her case, we came to the conclusion that she suffered from an A-V dissociation due to sinus inertia which always disappeared on exercise. We therefore permitted her to go through pregnancy. The x rays taken in the fourth, seventh and ninth months of pregnancy showed that the diaphragm was highest at the time of the seventh month. At this time the dimensions of the heart appeared to be somewhat greater than before. The x ray taken three months after delivery showed that the heart had not changed its original size. The lung traceries, especially at the time of the seventh month, were distinctly more pronounced than in the picture which was taken after delivery. The patient went through delivery and a brief narcosis easily. Of interest is the fact that during pregnancy the heart beat became regular just as after exercise. This case is reported in detail (13).

The first group of heart patients to be mentioned, in which pregnancy is usually contraindicated, is that of congenital heart cases. There are, of course, minor congenital heart malformations, which do not seriously influence the heart function, such as, for instance, a patent foramen ovale. Others, as, for example, pulmonary stenosis, must necessarily cause an enormous added burden upon the heart.

CASE III.—Mrs. V. L., thirty-three years old, had been under our observation from 1922 until 1931. At that time the diagnosis was pulmonary stenosis and patent interventricular septum. In 1934 she married, became pregnant subsequently, and started to have blood tinged sputum. A therapeutic abortion was performed in the second month. Since then she has been constantly decompensated, and often has hemorrhages at the time of menstruation. She is very cyanotic and short of breath upon effort. The lungs, according to the x ray picture, are congested. In this case the two months pregnancy changed the picture of the disease completely and transformed a perfectly compensated person into a total invalid.

Amongst the patients suffering from rheumatic heart disease, aortic stenosis is the condition which is most feared by the obstetrician, and this with good reason. However, not every case of aortic stenosis presents a bad prognosis.

CASE IV.—H. F., aged thirty-six, suffered from rheumatic fever at twenty years of age which led to the development of an aortic stenosis. The x ray showed an aortic configuration of the heart; the electrocardiogram was of the left axis deviation type, and the auscultatory findings were typical. However, the first heart sound was present in the stethogram which, in our experience, proved that the stenosis was a minor one. For this season we did not agree with the first consultant, who told the family that pregnancy would be a question of life or death. The patient, after thirteen years of married life and the husband, having been successfully treated for sterility, wished a child. Permission was granted for conception. The x rays taken on the

second, sixth and ninth months showed that the heart dimensions had increased by only 1 cm. and that the lung markings were at no time more intensified than those seen in the x rays taken three months after the uneventful delivery of a healthy child.

Case V.—Mrs. M. U. This was a typical case of aortic stenosis, in which pregnancy was strictly contraindicated. The patient, now thirty-five years old, had been followed by me from early childhood. She had a typical, severe aortic stenosis which had developed after a severe bout of tonsillitis. The patient came to me in the second month of pregnancy with an enlarged liver, edema, shortness of breath and tachycardia. She reported that the director of a hospital had refused to approve a therapeutic abortion. The x ray showed a high degree of hypertrophy of the heart with diffuse dilatation of the aorta. The stethogram, in contrast to Case IV, showed a high pitched, loud systolic murmur and complete absence of the first heart sound. Patients with aortic stenosis but an absent first heart sound, in our experience are in the greatest danger during pregnancy. To allow such patients to go through pregnancy, means to condemn them to death. The abortion was, of course, performed and the patient soon lost her shortness of breath, edema and the swelling of the liver. The amount of damage caused by the two months of pregnancy can only be seen in the future.

Another case of rheumatic aortic stenosis, who had been followed from her ninth to her nineteenth year, had a similar heart sound record. The first heart sound was absent, which meant that the stenosis of the valves was a serious one. She insisted on marriage and going through with pregnancy. She died in the seventh month of pregnancy.

In patients with mitral stenosis due to rheumatic valvular disease, the prognosis varies according to the degree and type of valvular stenosis.

Case VI.—Mrs. J. O. W. This case shows how much some patients with mitral stenosis can withstand. This patient was twenty-eight years old when first seen. She had suffered a miscarriage in the fifth month of pregnancy and on that occasion, for the first time, the physician had found her heart to be diseased. However, opinions were divided concerning the nature of the heart disease. I found a typical mitral stenosis, especially according to the stethogram. The x ray showed only moderate enlargement of the heart with no pulmonary congestion. Therefore, and because the patient was eager to have a child, I gave her permission to undergo pregnancy again. In 1941 she became pregnant. The x ray taken in the fifth and seventh months showed that the heart had increased in size during pregnancy, the diameter increasing from 11.5 to 13 cm. and the lung markings had become more and more pronounced. In the seventh month the patient again suffered a miscarriage, following which the x ray showed that the heart size had returned to its pre-pregnancy dimensions. The next year she became pregnant again. In the second month of pregnancy the size of the heart had increased slightly, and in the fifth month somewhat more. The patient again miscarried at the time of the seventh month and now it was discovered that she had ovarian cysts.

This case could give the the impression that a mitral stenosis can remain unaffected by three miscarriages, enduring the burden of pregnancy three times for seven months. I would not be astonished, however, if this patient soon developed all the symptoms of cardiac decompensation.

Case VII.—Mrs. M. O'M. This case demonstrates that even a highly decompensated mitral stenosis can undergo an abortion without great damage, provided the abortion is performed during the first two months. This patient was under observation for several years because of a highly decompensated rheumatic mitral stenosis with enormous dilatation of both auricles, perpetually irregular pulse, attacks of auricular flutter and fibrillation, of ventricular tachycardia, and at other times of partial heart block. She was permitted to marry but forbidden to become pregnant. Nevertheless, two months after marriage she became pregnant and an abortion was performed immediately. She survived the operative manipulation as well as the anesthesia without any signs of new damage.

The worst situation results, of course, when a patient with a decompensated mitral stenosis consults the physician in the advanced state of pregnancy. In this state an abortion entails a greater risk for the heart than even a natural delivery. The decision under such circumstances is both difficult and serious.

Case VIII.—Mrs. M. D. was twenty-one years old and in the fifth month of pregnancy when she consulted us. She had had repeated attacks of rheumatic fever, was often in bed for long periods of time, but never seriously handicapped. During the last two years she had been receiving digitalis. She married at eighteen and was unaware that she was in the fifth month of pregnancy when examined. The shock caused by this discovery brought on an acute decompensation of the heart. The examination revealed a very large heart with an enormous increase in the depth of the heart, auricular fibrillation, an enlarged liver, etc. It was decided to let the patient go through pregnancy, hoping that we could at least save the child's life, since an abortion would have been extremely dangerous. The patient was very desirous of bringing a child into the world. She followed up the carefully outlined regime. Towards the end of pregnancy under local anesthesia a Cæsarean section was performed. The patient survived this serious operation. The child is alive and healthy but the mother died a week after delivery in spite of all efforts to save her.

At the same time we were consulted by the twenty-three year old Mrs. H. Sch., Case IX. She was in the sixth month of pregnancy. She had had tonsillitis five years previously but was never found to be ill. Only after two months of pregnancy was heart failure diagnosed and an abortion recommended. However, a cardiologist was not in favor of it. According to the report given, the patient had suffered from coughing spells for a long time and had blood tinged sputum. When we first saw her she had an attack of auricular fibrillation and was in a distinctly asthmatic state. Bronchial asthma is a frequent complication of mitral stenosis. Here, too, an abortion was deemed to be too dangerous because of the advanced stage of pregnancy. Immediate hospitalization was recommended. However, she appeared in the hospital one week later and only after a new asthmatic attack had developed. The x ray picture showed clearly the asthmatic state while the heart dimensions were not much above normal. The asthma remained intractable and turned into pulmonary edema and in

e of all effort to save the patient's life she expired he fourth day of her stay in the hospital.

hese two cases show the tremendous dangers of nancy in cases with mitral stenosis. It is easy to that decompensation is an indication for an abor- What if decompensation develops later than during first two months of pregnancy?

is one of the greatest statistical mistakes to state many a patient, suffering from mitral stenosis, can hrough pregnancy without great damage. Only if eview the histories of the patients suffering from al stenosis carefully will we find that many, if not t of them, became heart cripples, invalids for life, result of the first or repeated pregnancies or be- e of repeated miscarriages. In many of these pa- ts the diagnosis of a valvular disease was made only r years of suffering and treatment was neglected.

ASE X.—Mrs. Ch. K. This patient was thirty-nine s old when she came under our observation. She had repeated attacks of tonsillitis and at fifteen s of age a valvular disease was discovered. After first delivery she was operated upon for an ovarian and then she had two abortions, following which had a second child, and then three more abortions. hirty-three years of age she was treated with radium ause all her complaints were attributed to the meno- se. She was never treated for her heart condition for bronchial asthma. When we first saw her she in a state of marked cardiac decompensation with ical signs of mitral stenosis and a cor bovinum. At t time she had much matrimonial trouble, because suffered from attacks of pulmonary edema follow- intercourse. In spite of strophanthin treatment she l four years later.

ASE XI.—Mrs. I. L. was forty years old when we saw her. Early in life she was seen by an excellent cialist who diagnosed pulmonary tuberculosis be- se of bloody expectoration during menstruation. At eteen, when she was pregnant, a mitral stenosis was lly diagnosed and since then, which means for twen- years, this patient has been decompensated, often in , often hospitalized, an invalid, a burden to herself l to her family. Only strophanthin, continuously ninistered for the last six years, keeps her alive.

ASE XII.—Mrs. Isobel L., aged forty-five, suffered n a typical mitral stenosis. When she became preg- t at the age of thirty the family physician was inst it. An internationally known heart specialist, vever, decided she should go through pregnancy. She l a miscarriage after a few months and the same re- red two years later. When she went back to her home South America, pulmonary edema developed almost htly. She finally had to leave her homeland and fam- She required constant strophanthin treatment, and s not only heartsick but homesick. After three years' atment, but against advice, she returned to South erica and died after a few weeks.

ASE XIII.—Mrs. S. R. This patient suffered only e from tonsillitis but when she became pregnant in l her heart became decompensated. Mitral valve ase was diagnosed. The child was delivered, but e then she has been frequently bedridden. Her rt, according to the x ray pictures, became bigger l bigger. She suffers once or twice a week from at- ks of paroxysmal auricular fibrillation in spite of nidine treatment. She cannot take care of her child, and cannot help her husband any more in his business. She is a heart cripple, and will be an invalid the rest of her life. (She died a few weeks ago.)

CASE XIV.—Mrs. R. R. was thirty-nine years of age when she became pregnant. She had known that she suffered from a mitral stenosis and that she should not go through pregnancy, but for some minor reason she consulted us only when she was already in the fourth month of pregnancy. At this late date intervention was not possible. The dimensions of the heart, as the x ray showed, did not change much, Cæsarean section was performed towards the end of the eighth month without difficulty. The child was and is healthy. The patient did not feel much different after pregnancy. However, she required more digitalis than before. About two years later she became ill with bronchial pneumonia and succumbed in a few days in spite of adequate treatment. This patient no doubt was one of those victims of pregnancy who die within two years after childbirth.

We have demonstrated the tragedy which women with heart disease face during and after pregnancy. We could add many more examples. The picture presented is similar to that shown by many statistical studies. It differs, however, very much from that of certain other statisticians. This discrepancy is not caused by different scientific concepts, but by differences in the material used as a basis for the statistics and by differences in statistical methods applied. In none of the available statistics, however, are the late consequences of pregnancy in heart patients or the future of the mother with a heart ailment satisfactorily considered.

It is hard to understand how anyone can say that "pregnancy does not aggravate a pre-existing heart disease unless it is complicated by a toxemia causing arterial hypertension", and "death or the development of heart failure during the course of pregnancy is usually due to the natural termination or progress of the heart disease."

Most textbooks consider the problem too superficially by maintaining that only the heart with signs of decompensation is unfit to go safely through pregnancy. However, it is extremely difficult to detect early signs of decompensation. The earliest sign of decompensation, for instance, in patients with mitral stenosis or congenital heart disease, are the intensified hilar shadows in the roentgen film. But the decision whether a certain hilar shadow is normal or not is a problem in itself.

There are many functional tests for the heart, but none are reliable. Therefore, we always fall back upon the observation of pulse rate, etc. Mendelsohn and Pardee (27), for instance, found that in two hundred pregnant women with rheumatic heart disease, elevation of the pulse rate above 110 and the respiratory rate above 24 during the first stage of labor preceded each instance of cardiac failure. We doubt, however, that pulse observations alone are reliable in judging the anatomical and functional state of the heart.

We must confess that there is no method by which to predict how a diseased heart will go through pregnancy. The decision, therefore, as to whether a woman can go through with pregnancy, remains an individual one and should not be complicated by fixed rules. Beck (2) says, "even the most favorable cases sometimes end tragically". Every woman with an anatomical heart lesion is endangered by pregnancy and her future

health condition is questionable. The final decision, whether pregnancy can or shall be interrupted because of a heart lesion, lies in the hands of the patient. The physician's duty, however, is to inform the patient and the family about the following facts:

1. Intercourse is a great effort in patients with very high blood pressure and for the socalled latently decompensated heart. This should be considered before marrying.

2. Pregnancy should be avoided in patients with signs of decompensation of the heart, since even an early abortion during the first two months and the necessary anesthesia can cause further damage. Decompensation (latent) may manifest itself only in the form of a short cough or in the x ray picture of the lungs. The chances for survival of the mother, suffering from chronic decompensation, are fifty percent.

3. If, however, such a patient becomes pregnant, the pregnancy should be interrupted during the first two months. Abortion at this stage is usually not too dangerous, if heart failure is not too severe. If in a previously well compensated patient, signs of decompensation appear during the first two months, before even the load upon the heart has begun to show, mother and child have little chance of survival. Abortion should therefore be instituted at once.

5. If heart failure appears after the first two months, or the patient or physician did not come to a decision during this time, interruption is no longer advisable, since it would add to the immediate load. There remains only the hope that under careful treatment the mother may be kept alive until after the seventh month, when the load is automatically diminished. In this case the mother may be capable of tolerating a natural delivery Cæsarean section. The earlier heart failure starts less chance there is of saving the mother's life.

6. The effort to keep the mother alive ove seventh month may, however, save only the child, the period after delivery is just as dangerous fo mother's life as the time between the second an seventh months.

7. The heart which once failed during or after nancy should no longer be exposed to the effort of nancy or abortion.

8. The parents should be informed, that the fects of one or several pregnancies as well as of several abortions upon the previously diseased may show up only after months or years. Even t the mother may come through one or several births, she faces the danger of subsequent seve compensation, early death, or long lasting incap

9. We must not neglect the social questions: creation of that human life justified? Is this h being to be deprived of his mother before he ope eyes or before he has grown up? Shall the moth crippled for life, become a burden to the family perhaps destroy the social security of the husban child?

10. The question of whether heart disease is itary is less important. Rheumatic heart disea however, more frequent in some families than in Congenital heart lesions seldom seem to be inh although a general inclination to congenital malf tions may be inherited. Hypertension is surely a ial disease.

Bibliography appears on page 557.

DECISIVENESS IMPERATIVE IN CARDIOVASCULAR MANAGEMEN

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During the past decade radical changes have taken place in our management of many diseases, including those of infectious origin. In pneumonia, for example, until very recently the treatment was entirely symptomatic. With the introduction of the sulfonamides the therapy in pneumonia has entirely changed and only rarely are the antipyretics and the old nursing regime employed. So too with our theories of management of cardiovascular disease. It has been shown, since the introduction of iodine-cacodylate that the temporary sustaining remedies formerly employed may be discarded, and that patients may be restored to practically normal activity rather than compelled to adopt the regime of a cardiac invalid.

Hitherto, the cardiovascular diseases of later life have been accepted with a defeatist attitude and the idea that nothing can halt the aging processes of nature. The fact that habitual indiscretions or other etiological factors cause some individuals to become old at forty while others remain young at eighty is too frequently overlooked. Surgery today considers the physical condition of the patient rather than his age. Progress in other branches of medical science has given us much information to assist in the recognition of the cause and degree of atheromatous changes. Blood studies, chemistry of the blood and urine, serological reactions, the sphygmomanometer, the cardiograph, etc., all giv nite information on body functions and the wea tear thereon.

Since the beginning of medical science we ha the treatment of circulatory diseases, been limited ly to sedatives, stimulants, and vasodilators, a though these have been greatly refined and imp they remain but temporary measures. Hormon vitamins have recently been added to this therap although their effect is more enduring than th temporary relief from sedatives and stimulants offer no sustained cardiovascular reserve.

The rapidly changing pattern of present day lif its increased emotional strain demands greater s for glandular and neurogenic nutrition, and th increasing mortality from socalled degenerati eases is the best evidence of the need of change i management. It is well known that iodine is a ne support for the entire chain of endocrine glands, been so well demonstrated in control of thyroi tion. Parenteral medication has changed the operandi of all forms of therapy; this is especial of iodine. Oral administration frequently produc trointestinal irritation. The side salts and alcoh in its combination tend to change the chemist are thus responsible for socalled iodism. Withou

salts or alcohol and in isotonic colloidal form, this nteral iodine is introduced with the least possible ge of chemistry or loss of the element.

he enduring effects resulting from the use of this of iodine is the best answer to its becoming a part he body chemistry. Many patients, under this apy, have remained symptom-free for a period of years or more. Its efficacy in glandular nutrition is demonstrated by the sustained improvement fol- ng its administration during the menopause, a time recognized as a period of glandular imbalance. odylate gives a similar nutritional reaction, especial- r neurogenic support, manifested by immediate re- se in the gonads as well as neurovascular and capil- improvement. This improvement, likewise, is of a ained character, especially when cacodylate is com- d with the colloidal isotonic solution of iodine ch neutralizes any irritating effect of the former and es it more acceptable for infusion as part of the y chemistry. It can be administered intravenously, agluteally, or into the abdominal fold, without un- rable reaction, either local or general.

hese statements are advanced as the result of ex- imental studies extending over a period of more n twenty-five years. The horse was selected for the ial research on the theory that his life cycle parallels a considerable degree that of man. The horse is a hly sensitive, emotional animal, the only animal with early sense of responsibility governed by fear, and ce more susceptible to cardiorenal disturbances than n. The horses selected were more than twelve years age, were unfit for work, and some were barely able walk. Most of them showed extensive signs of cardiac nage. The general physique was comparable to that an overworked, exhausted man in late middle life, h a definitely damaged cardiovascular system.

reatment was initiated with a regular sustaining t. The teeth were given attention in order to assure per mastication. No attempt was made to correct er defects except in the case of lameness from found- (laminitis) or sidebone (calcification of the lateral tilages) for which a nervectomy was performed. nulants and sedatives were avoided and after suffi- nt strength had been gained ordinary farm work was mitted.

In our early experiments various chemicals were tried differing combinations, concentrations and dosages. the animals showed some degree of improvement, ich must in part be attributed to the altered regime d hygienic living conditions. However, only those imals receiving iodine and cacodylate appeared to e on a new lease of life. Some of them were able to urn to normal working conditions for as long as five ars, adding about twenty percent to a horse's normal tive life. More than twenty horses were so rejuve- ted within a period of eight years.

Through continued research during this time, a emically pure, nonirritating compound for adminis- tion to human patients has been stabilized. A prelim- ary report on a series of approximately eight pa- nts was presented following observation and treat- nt for more than eight years (1). A second report was blished the following year (2). Our series is now well er three hundred, with a mortality of approximately e percent.

In the management of patients suffering from coro- nary disease, it is important that the history be obtained by the physician himself, not delegated to an assistant or nurse, to detect all possible contributory factors. (One patient hesitatingly admitted that her morning coffee was brewed from a full cup of ground coffee to three cups of water; thus, caffeine equivalent to that in ten cups of good restaurant coffee was ingested at breakfast alone). Judicious questioning may also elicit a history of scarlet fever, diphtheria, tonsillitis, or rheumatic fever, which points to definite organic and underlying etiology. Repeated miscarriages or stillbirths, even without a positive venereal history, should have serious consideration. All foci of potential infection should be eradicated if possible.

A dietary regime which avoids digestive stress is prescribed, eliminating highly seasoned foods; salt should be reduced to a minimum. The excessive use of coffee, tea, and tobacco appears to have a more deleterious effect than alcohol. Alcohol is not recommended, although some patients are apparently not harmed by its use in moderation. We have felt it important to lay particular emphasis on the quality as well as the quantity in the dietetic regime. Too little has been said about the difference in the toxicity of foods consumed daily. A strong tannic acid infusion of tea must necessarily do more harm than tea properly brewed; coffee not freshly made, or reheated, likewise contains injurious oils and acids. Water with an excess of lime is less beneficial than soft water, and this must be considered, inasmuch as water is important in overcoming liver and kidney damage. Soups should be made of good meat extracts containing amino acid concentrates, not synthetics, also vegetables, but not thickened with flour or highly seasoned. Fruit and vegetable juices, preferably fresh, should be taken in abundance.

It has been consistently noted that in cardiovascular patients the tranquillity resulting from a course of iodine-cacodylate injections is sustained, and with each injection greater cardiac reserve is created. This is contrary to the synthetic effects of sedatives, stimulants, and vasodilators which, in addition, have a harmful effect on the liver and kidneys.

The objective symptoms of tachycardia, arrhythmia, cyanosis, dyspnea and vomiting show immediate improvement. When the effects of the iodine-cacodylate have become evident, usually after the second or third injection, the temporary measures can be reduced and gradually withdrawn entirely. This should appear to prove the nutritional benefit of this medication. Also, since many patients remain symptom-free for years, the effects can hardly be classed as temporary. The anginal syndrome becomes less marked or disappears entirely; hypertension is reduced in both systolic and diastolic pressures and, with the cooperation of the patient, usually remains at a comparatively normal level. Patients do not remain heart conscious; on the contrary, the great difficulty is encountered in impressing upon them the fact that it will take six months, more or less, for the acute myocardial damage to resolve into a benign condition. Many patients, when they lose entirely the pain and effort handicap, with repair still incomplete, become overconfident and through overindulgence invite another attack which may prove fatal. Activity and diet must be carefully supervised for at least six months. Decisiveness here may mean the difference between success and failure.

Blood chemistry studies are valuable as a matter of record in the progress of the case, in addition to disclosing any existing liver and kidney damage. These findings have a definite value in determining the injurious effects of sedatives, if administered, and will usually show improvement when sedatives are withdrawn. All other forms of medication should be discontinued as soon as possible, the only exceptions being calcium, phosphorus, and the natural vitamins and hormones when the need is indicated by signs of vitamin and other deficiencies. Cathartics that contain nux vomica, belladonna, or phenolphthalein are to be avoided. The bowels may be regulated by bile salts or other cholagogues, or the compound mixture of hydrastis, taraxacum, cascara, fruits and fruit juices.

Next in importance to the careful selection and preparation of food is the elimination of toxins already in the blood stream and, if possible, the correction of existing liver and kidney damage. Besides the use of the softest water, cholagogues, and other liver, kidney and bowel elimination assistants, the skin should be employed more frequently. Mineral water baths, especially those of high concentration, seem more effective. The greatest amount of continued skin elimination, in my opinion, is brought about by a heavy mud pack. This produces a suction effect and the sweat glands remain active for several hours even after the acute flow of perspiration has ceased. The lighter the consistency of the mud, the less effective seems to be the process of elimination. It is possible to elaborate greatly on this question, so highly important.

Massage and medical gymnastics will hasten the alleviation of intermittent claudication and other retarded circulatory congestion, especially the lymphatic and arthritic circulation.

The formula of iodine-cacodylate as recommended consists of an isotonic iodine with colloidal and semi-colloidal breakdown products of protein and cacodylate compound, consisting of ten cc of 0.2 percent iodine and seven grains of sodium cacodylate per injection. The isotonic colloidal iodine solution comes in a ten cc ampoule, to which is added seven grains of sodium cacodylate from another one cc ampoule. A ten cc syringe is sufficient to carry the entire solution, consisting of eleven cc of the compound for each injection. For intragluteal or abdominal fold injection, deeper injections cause a minimum of pressure discomfort.

The purpose of keeping the solutions separate is in order that the physician may vary the dosage of either iodine or cacodylate at his discretion. However, the dosage as given has proved in more than twenty-five years of research to be the most effective and best standardized for general use. The only variation would be in the frequency of injections. The isotonic and neutralizing effect of the iodine overcomes any irritation of the cacodylate.

The course of treatment is as follows: In acutely ill patients injections are given every day for six days, then every other day for ten injections, or until oxygen and other stimulants and sedatives can be withdrawn, then semi-weekly until precordial pain and effort syndrome disappear. In advanced cases a second and, if necessary, a third course of twenty injections should be given, one or two injections weekly as support is needed, then weekly until myocardial repair becomes apparent. In milder cases, one injection semi-weekly for six injections, then one weekly for the balance of the c of twenty injections, usually gives complete relie the presence of hypertension or other cardiovas symptoms, injections should be continued once w until the pressure and other conditions become nearly normal. With strong climacteric symptoms possible prostatic obstruction, testosterone and uri antiseptics, with careful dietary aid to assist urea ination, are advisable. In the female, the estro may be of temporary value until the iodine-cacod can give more sustained support.

No irritation of tissues or inflammatory reac have been noted following injections even if the ti around the vein are infiltrated. When given intraglu ly or into the abdominal fold, no local reaction o other than pressure discomfort.

The patient should return every three months fo servation during the year following the course of t ment. His cooperation as to regular habits and emo al control is important. In the small percentage o tients who have retrogressed, immediate improve was so marked that they could not be convinced they had a true coronary thrombosis, and that it necessary for them to remain under continued obs tion. Because of the dramatic improvement, the pa must be warned that extreme caution must be exer in all forms of exertion. If his subjective symptoms diminished or disappeared he may gradually resum normal habits, with care and with possible restrict "False angina" is a misnomer since many patients a fifty years of age die from angina when there is no evidence of arteriosclerosis. Only those patients have an organic heart lesion have remained cardiac scious, and their activities have been restricted ac ingly.

Summary

The basic principle upon which this treatmen coronary disease rests is that the exhausted cardia serve is in reality a depletion of body chemistry, ar exhaustion of the nutritional supply to the glands have to do with repair of the minute structures o body. It is believed that the cardiac reserve create means of the therapeutic agents employed produc sustained relief and added security from furthe tacks. Hypertension and other symptoms of circula or angiitis pains are apparently relieved. These re have been observed in more than three hundred over a varying period of years.

No sedatives or heart stimulants have been ployed. Improvement is brought about by restorin tency and improving the circulation of the intima, ticularly of the coronary vessels. Androgens and e gens, if indicated, need the sustaining support of io cacodylate, which alone, without the former, brought about symptom-free periods enduring in cases for more than ten years.

The cooperation of the patient with regard t and exercise is essential, particularly in the initial st of treatment.

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25 EAST WASHINGTON STREET

Editorials

The Health of the Nation

During the last war we were all profoundly shocked by the number of men who were rejected by the Army for physical and psychological causes. We all felt sure that if we ever had another war we would not find so many rejected. It is rather disconcerting to find so many bad teeth, bad eyes, bad feet and distorted psyches among the young men of this country. When one listens to the radio day after day and hears all that vitamins, diathermy, laxatives, pain removers and breakfast foods will do for man, we wonder that so many are rejected by the Army. We wonder how we can compare the health of the young men of our nation with that of other nations of the same age groups. It would be interesting to compare the condition of a group of our young men with that of countries like Russia, England, Germany and France.

It is mainly through mobilization that these defects are brought to the surface. We are certain that periodic health examinations of the inhabitants of this country would reveal the progress that was being made in preventing ill health of minds and bodies. We believe that some such program should be included as one of our important postwar plans. We talk of jobs for everyone and this is vital, because without jobs we cannot be healthy, physically or mentally, but we can assume that even though we solve these basic economic problems, we will still have too many who are not physically fit.

We hear much of reconstruction of our roads, reconversion of our factories, but it would not be amiss to consider seriously a long-range program of rehabilitation for the substandard men and women who are too prevalent among our population; and we should go a step further and consider a national program for the study and prevention of these ailments which render so large a portion of our population as unfit for military or complete civilian usefulness.

What Next?

In this sad and turbulent world which has been so profoundly upset for the past several years we shall shortly be confronted with victory over deeply destructive forces, and many professions will be called upon to help heal the scars and prevent future catastrophes for both men and nations. We have long held the belief that men of medicine should play a more active rôle in the preservation of peace and in the building of healthier men and women physically and mentally.

We realize full well the circumstances that hinder the average medical man's participation in these enormously constructive tasks. The general practitioner has more than he can do to his complete satisfaction in caring for the group of patients whose care is entrusted to his ministrations. The average physician in addition to looking after those who are ill or disabled must look after himself economically; he must make a living. Furthermore, he must keep abreast with the things that are new in medicine. All-in-all, his life is not an easy one. It takes him longer to become prepared for his vocation than any other professional man, and then he must afterwards spend the rest of his life keeping up with the findings of other scientists.

It may seem a bit unfair on top of all these tasks to ask him to take on the graver responsibility of large groups of sick people in a very sick and shattered world—but if the medical man won't, who can or will? Statesmen try to avert international catastrophes through treaties and understandings with other nations; economists think they have the answer through the removal of financial and economic maladjustments; warriors attempt a solution through the strength of their armies; theologians have for centuries earnestly endeavored to prevent strife among men and nations without success. All of the efforts of these groups so far have not succeeded. Not too long after one war is concluded, a new pandora's box appears.

The present war is the most far reaching and destructive to men, morale, and materials the world has ever witnessed, and civilization cannot afford another. It seems logical to us that the medical profession should be in a position through its knowledge of men and their weaknesses to help seriously in the prevention of future international catastrophes.

Malaria

Malaria is one of the oldest diseases of which record has been kept. It is interesting to note that some of the earliest references to this disease occur in the history of Greece and Rome and with the exception of Hippocrates were written by laymen. Aristophanes, the poet and dramatist (450-380 B.C.), lived at the same time as Hippocrates, and in *The Wasps* he undoubtedly referred to malaria. Marcus Terentius Varro (46-27 B.C.), Celsus, Pliny the Elder mention melena several times and Martial, the caustic satirist, says "It is a false report that Tongillius is being consumed by a semitertian fever. I know the tricks of the man; he is hungry and thirsty." The foregoing notes are taken from Major's *Classic Descriptions of Disease*. It is no cause for wonder that where conditions were favorable and the mode of transmission was unknown, malaria should have flourished exceedingly.

In the Middle Ages, Europe suffered severely from the ague, especially one part of the east coast of Britain before it was drained. Proper drainage and treatment by cinchona bark, brought from Peru by Jesuit missionaries, saved Europe from its ravages to a large extent. Laveran (1880) discovered the parasite and the phenomenon of flagellation in shed blood, but the three species were not differentiated until Manson (1894) formulated the hypothesis of mosquito transmission but thought that man acquired the disease by the agency of water and not by biting. Ross (1898) worked out the correct transmission and development cycle of bird malaria in culicine mosquitoes and having previously observed the partially developed oöcysts of human malaria in dappled winged mosquitoes (anophelines) predicted a human life cycle similar to that observed in bird malaria. In the same year Grassi, Bignami and Bastianelli (1898) observed the complete development of malignant tertian malaria in Anopheles maculipennis and transmitted the disease to man by the bite of mosquitoes. These facts are gathered from Price's *Textbook of Medicine* where they were set down by Dr. G. Carmichael Low and Dr. N. Hamilton Fairley. Incidentally, Dr. Africanus King, in a paper read before the Philosophical Society of Washington, D.C. (*Popular Science Monthly*, September 1883), gave nineteen reasons for believing that malaria was transmitted by a mosquito. Manson said that "Ross had hammered out the key; others might take the trouble to open the door." Well, the door has been widely ajar for some time, and if not absolutely open there seems to be now little to discover which will open it outright.

In the campaign against malaria prevention is most important and if a tithe of the money and expenditure of brain power and energy wasted on purposes of destruction had been employed for the prevention of malaria and other preventable diseases, the world would have been better in every way and a decidedly more pleasant place in which to live.

In this worldwide war, which is being fought in large part in malaria-infested countries, the menace of malaria has increased and the call for effective drugs has become more urgent than ever.

Shortage of Physicians

Today we have a shortage of physicians. The overtaxed practicing physician as a rule finds difficulty in giving the full and adequate care that is required by the sick and ailing civilian population. The demobilization of the physicians in the Army will do little to alleviate this medical shortage. The returning soldiers, both wounded and sick, will require considerable medical care. Of course, we can get by in a slipshod sort of way but we shall not be able to give the thorough study and proper treatment to our civilian population and our returning soldiers. This will be especially marked in certain communities and districts.

The number of medical graduates today will scarcely replace the physicians lost to the profession through death or enforced retirement from practice on account of age. We feel very strongly that strenuous measures should be taken to strengthen the medical faculties of our universities as soon as possible after victory and increase the number of students matriculated in medical schools.

News Items

Malaria Treatment Center.—A special treatment center for malaria and other tropical diseases was opened at the Moore General Hospital, Swannanoa, N.C., on September 1st, according to a recent announcement. It will be under the command of Lieut. Colonel Joseph M. Hayman, M.C., who has spent two years in the South Pacific studying tropical diseases. Lieut. Colonel Francis R. Dieuaide, chief of the tropical disease branch, Surgeon General's Office, will administer the scientific phases of its activities.

Mayo General Hospital Dedicated.—Brig. General Fred W. Rankin, director of the surgery division, Office of the Surgeon General, spoke on July 10th at the dedication of the Mayo General Hospital at Galesburg. Ill. This military hospital, which was opened on January 1st, is under the command of Colonel Henry L. Krafft, M.C. The hospital has 1650 beds which are for general purposes in the care of overseas casualties and those injured in training.

General Hillman Appointed Head of Letterman Hospital.—Brigadier General Charles C. Hillman, for five years chief of the professional service of the Office of the Surgeon General, Washington, D.C., has assumed his new duties as Commanding General of Letterman General Hospital in San Francisco. This institution, containing twenty-five hundred beds, has been designated as the principal debarkation hospital for casualties from the Pacific area. Major General Norman T. Kirk, Surgeon General, U.S. Army, in making this announcement, said that General Hillman was mainly responsible for the blood plasma program of the Army, and under his direction was organized the chest x ray examination of all Army inductees.

Postgraduate Course in Industrial Medicine.—Dr. Jean A. Curran, president and dean of the Long Island College of Medicine, Brooklyn, N.Y., announces that the Third Postgraduate Course in Industrial Medicine will be given under the auspices of the Department of Preventive Medicine and Community Health, October 16th to November 3d. It will be conducted by more than fifty leading physicians in industrial practice, authorities in allied fields and members of the faculty of the college. In this course particular emphasis will be placed on postwar conditions and problems associated with the return of workers from military service, and while designed for graduate physicians, it will be opened to industrial executives, personnel workers, industrial nurses, hygienists, engineers and others interested in industrial health.

Specially Trained Psychiatrists.—One hundred and forty medical officers were recently graduated from three schools of military neuropsychiatry in the New York area. Classes were conducted at the Mason General Hospital, Long Island, the Columbia University College of Physicians and Surgeons, and Bellevue Hospital Medical College, under the direction of leading civil and military psychiatrists and neurologists. The courses at Columbia and Bellevue have been discontinued until fall, but the course at Mason General Hospital is being conducted with a new class of fifty-four officers. Officers graduated from these schools have been ordered to duty in Army hospitals to aid in the care and treatment of psychiatric cases.

Consultants to the Surgeon General.—Among those recently appointed as consultants to the Surgeon General, U.S. Army, in matters pertaining to preventive medicine and public health are: Dr. George K. Strode, director, International Health Division, The Rockefeller Foundation; Dr. C. E. A. Winslow, Lauder professor of public health, Yale School of Medicine; Hugh H. Smith, M.C., regional director for United States, Canada and Mexico, International Health Division, The Rockefeller Foundation; Dr. Ernest L. Stebbins, commissioner of health, New York City; Abel Wolman, Ph.D., professor of sanitary engineering, The Johns Hopkins School of Hygiene and Public Health, and Dr. Claude E. Forkner, director, China Medical Board.

Postwar Training of Medical Corps Officers.—The Office of the Surgeon General of the Army has announced the appointment of a committee to formulate plans for postwar training of medical corps officers who will be separated from the military service at the end of the war. The committee consists of Brig. General Raymond W. Bliss, chief of operations service, chairman; Brig. General James S. Simmons, chief of preventive medicine service; Colonel James R. Hudnall, chief of personnel service; Brig. General Fred W. Rankin, director of surgery division; Brig. General Hugh J. Morgan, director of medicine division; Colonel Floyd L. Wergeland, director of training division; Colonel William P. Holbrook and Lieutenant Colonel R. H. Meiling, representatives from the Army Air Forces; Colonel R. B. Skinner representative fom the Army Ground Forces; George B. Darling, M.D., representative from the National Research Council.

Sanitary Corps Officers Needed.—The Army Medical Department needs five hundred officers for assignment to the Sanitary Corps to fill vacancies and to relieve physicians and surgeons for professional duties. A survey of civilian and Army personnel is now being made to find qualified entomologists, sanitary engineers, bacteriologists, biochemists, parasitologists, nutritionists, and industrial hygiene engineers. Qualified officers in other branches of the service whose qualifications are not fully used in their present assignments will be considered for duty with the Sanitary Corps. Requests should be forwarded to Adjutant General, U.S. Army. Civilians, warrant officers and enlisted men will be given direct appointments as officers in the Sanitary Corps. Qualified civilians should apply in writing to Officer Procurement Service in Headquarters of the Service Command in which they reside or to Officer Procurement Service, Washington 25, D.C.

Personal.—Major General Norman T. Kirk, Surgeon General, U.S. Army, has returned from visits to the Italian and Normandy battle fronts where he inspected medical facilities including those at battalion aid stations as well as Army hospitals in England.

Colonel William J. Bleckwenn, professor of neuropsychiatry at the University of Wisconsin, has been appointed neuropsychiatric consultant to the Sixth Service Command, with headquarters in Chicago. Colonel Bleckwenn has just returned from over two years service in the South Pacific, having gone out in command of a medical regiment.

Colonel John A. Rogers, of the Army Medical Department, formerly on duty in Washington as executive officer in the Office of the Surgeon General, has been awarded the Legion of Merit for services in the European theater. The citation said the award was given for "exceptionally meritorious conduct in the performance of outstanding services from October 20, 1943 to May 31, 1944."

Colonel Edward J. Tracy, M.C., a member of the College of Surgeons from Rosemount, Minn., has been awarded the Legion of Merit for services as surgeon, Eighth Bomber Command, from August 11, 1942 to January 6, 1944. The medal was awarded primarily for his administrative skill and sound judgment.

Lieut. Colonel Thomas G. Ward, M.C., has been appointed director of the epidemiological division of the Preventive Medicine Service, Office of the Surgeon General, succeeding Lieut. Colonel Arthur P. Long, who has been assigned to overseas duty.

Dr. Howard Fox, of New York, was elected president of the American Board of Dermatology and Syphilology at the annual meeting held recently in Chicago, and Dr. George M. Lewis was named secretary-treasurer.

Dr. John J. Moorhead, who was to retire August 1st as medical director of the New York City Transit System, has consented to continue in the position for another year at the request of the board of transportation.

Dr. Otto Loewi, research professor of pharmacology at New York University, has been awarded the Cameron Prize in Practical Therapeutics of the University of Edinburgh in recognition of "his fundamental work on the chemical transmission of the nervous impulse".

Major William Harold Dunn, M.C., has been appointed neuropsychiatric consultant for the Fifth Service Command Headquarters, Columbus, Ohio. Major Dunn is a graduate of Harvard, and has had extensive psychiatric training and experience, and was formerly on the staff of the School of Military Neuropsychiatry at the Mason General Hospital.

Major Edward M. Freeland, M.C., has been assigned to the physical standards division, Professional Service of the Office of the Surgeon General.

Dr. Martin Lasersohn has been appointed assistant to Dr. Theodore G. Klumpp, president of Winthrop Chemical Company, Inc., also assistant treasurer of the company and secretary of Fairchild Bros. and Foster, a Winthrop subsidiary. Prior to assuming these executive duties Dr. Lasersohn was medical director of Winthrop Chemical Company, with which he has been associated since 1930. From 1928 to 1930 he was associate professor of medicine at the Medical College of Virginia.

Merger of Hospitals.—The Surgeon General's Office has announced the merging of the Fort Benjamin Harrison Station Hospital, at Fort Benjamin Harrison, Ind., with the Billings General Hospital. The dispensary will be in charge of Major S. T. Sternberg, M.C. Billings Hospital will take care of dispensary cases requiring hospitalization which will be transferred to the jurisdiction of Colonel Harry L. Dale, M.C., commanding officer of the hospital.

Committee on Medical Research Publishes Weekly Journal.—The Committee on Medical Research of the Office of Scientific Research and Development is publishing a weekly journal entitled, *Summary of Reports Received by the Committee on Medical Research*. Circulation of the publication is restricted to selected Medical Corps men in the United States, Canada and Great Britain. The journal is being edited and published by the records section of the Committee, the work of which is directed by Dr. Kenneth B. Turner, who is on leave of absence from the College of Physicians and Surgeons, Columbia University, where he is assistant professor of medicine.

Symposium on Fluorine in Dental Public Health.—At the first open meeting of the New York Institute of Clinical Oral Pathology, to be held in the New York Academy of Medicine, on Monday evening, October 30th at 8:15 p.m., Dr. Arthur H. Merritt will preside at a symposium on "Fluorine in Dental Public Health", and the following outstanding investigators will participate: Dr. Frederick S. McKay, Colorado Springs, Colo.; Dr. H. Trendley Dean, Senior Dental Surgeon, U.S.P.H.S., Bethesda, Md.; Dr. Wallace D. Armstrong, University of Minnesota; Dr. Basil G. Bibby, dean, Tufts Dental College; and Dr. David B. Ast, assistant director for oral hygiene, State of New York Department of Health. For further information regarding this meeting address the Executive Secretary, 101 East Seventy-ninth Street, New York 21, N.Y.

Clinical Psychologists Assigned to Duty in Army Hospitals.—Clinical psychologists commissioned in the Adjutant General's Department have been made available for assignment to the Office of the Surgeon General for the neuropsychiatric sections of named and numbered general and station hospitals of one thousand beds or more. They will serve under the direction and supervision of the chief of the neuropsychiatric section, and their duties will be to (a) aid in the development and administration of the program of counseling designed to prepare convalescent patients for return to military service; (b) assist in the preparation of clinical records, particularly including those requiring the use and interpretation of special psychological tests as desired by the chief of the neuropsychiatric section; (c) assist in studies of special psychological problems related to the classification and retraining of neuropsychiatric casualties; (d) assist in the determination of the appropriate military occupational specialty of men who are designated as ready for assignment, and to advise regarding their assignment to a specific duty or special training; (e) perform such other professional and administrative duties in the hospital as will best assist the neuropsychiatrist in the accomplishment of the best management and disposition of patients.

General Hospital Dedicated to Army Nurse.—Colonel Florence A. Blanchfield, A.U.S., superintendent of the Army Nurse Corps, gave the dedicatory speech on July 9th for the Gardiner General Hospital, Chicago, named in honor of Lieutenant Ruth M. Gardiner, the first Army nurse to lose her life in the performance of duty in this war. Colonel John R. Hall, M.C., was assigned the post of commanding officer. Brig. General Fred W. Rankin, director of the surgeon division, Office of the Surgeon General, also spoke at the ceremony.

Infantile Paralysis Fund.—The National Foundation for Infantile Paralysis announces that an all-time record of $10,973,491 had been received from the 1944 March of Dimes, which almost doubled the former record of $5,527,590 received in 1943. Half of the funds raised each January through the celebration of the President's birthday is retained by the three thousand county chapters for aid to those stricken with poliomyelitis; the other half goes to the National Foundation for its program of research, epidemic aid and education.

Advisory Board on Clinical Psychology.—The preliminary meeting of the Advisory Board on Clinical Psychology of the Office of the Adjutant General was held on July 29th, under the auspices of the Chief Psychologist, Walter V. Bingham, who called the meeting and presided over it. Lieut. Colonel Morton A. Seidenfeld has recently been appointed Chief Clinical Psychologist, and his assistant is Captain J. Eisenson. Among those who attended the meeting were Colonel W. C. Menninger, director of the neuropsychiatry division; Lieut. Colonel M. J. Farrell, Major N. Q. Brill and Major Walter E. Barton, of the Office of the Surgeon General; Colonel A. P. Sullivan, director of the operations and training division of the Adjutant General's Office; Colonel George R. Evans, chief of the classification and replacement branch of the Adjutant General's Office; Lieut. Colonel Edward M. Alkire, coordinator of War Department Personnel Audit Teams, and Lieut. Colonel M. W. Richardson, chief of the personnel research section of the classification and replacement branch, Adjutant General's Office.

Military Surgeons to Meet in New York.—The fifty-second annual meeting of the Association of Military Surgeons of the United States will be held in New York, November 2d to 4th, with headquarters at the Hotel Pennsylvania. The program will include addresses by the Surgeons General of the Army, Navy and Public Health Service, the chief of the Veterans Administration, and the Commanding General of the Second Service Command. There will be forum lectures on war surgery, chemotherapy, communicable diseases, neuropsychiatry, medical problems in the theaters of operation, dental rehabilitation and equine encephalitis. The panel discussions will include such topics as war wounds, burns and fractures, neuropsychiatric problems, treatment and prevention of venereal diseases, penicillin and sulfonamide therapy, orthopedic and reconstruction therapy, neurosurgical problems, tropical diseases in the Army and Navy and aviation medicine. Colonel Lucius A. Salisbury, M.C., New York National Guard, is president of the association, and Colonel James M. Phalen, U.S. Army, Retired, is secretary-editor.

Book Reviews

General Surgery

Textbook of General Surgery. By WARREN H. COLE, M.D., F.A.C.S., professor and head of the department of surgery, University of Illinois College of Medicine, and ROBERT ELMAN, M.D., associate professor of clinical surgery, Washington University School of Medicine, St. Louis. Fourth edition. New York and London: D. Appleton-Century Company, Inc., 1944. Pp. 1118. Price $10.00.

In addition to the authors mentioned above there is a list of eighteen "consulting authors", all of them well known for their contributions to the literature, many of them teachers in our medical schools. The reason for the fourth edition of this excellent work is "the increasing tempo of world events as it influences surgery". When this country entered the world conflict, it was thought wise to write a new chapter on war and catastrophe surgery. This is the final chapter (33) in the book and it considers, besides war wounds, "the crush syndrome", "blast injuries", "war gases", and "war lesions of the feet". One sees, therefore, that the idea of completeness has been held of prime importance in this text. It was found necessary to rewrite or revise extensively the subjects of fluids and electrolytic balance; aminoacid therapy; hypoproteinemia; transfusion; chemotherapy; appendicitis; wounds; burns; and surgical shock. Nothing seems to have been left out which the surgeon may wish to "look up" when he is confronted by a problem. It is good to see emphasis placed upon pathology without which surgical diagnosis never could have attained its present excellence. Therapy before and after operation is stressed. This is a desideratum which seems sometimes to have been forgotten by authors when making up a "table of contents". Minor surgery is given the emphasis which it must have in any comprehensive text; while major surgery is discussed in principle rather than in details of technique, although this is probably sufficient for most operators.

Out of this war, many books will be written, and many revisions of olders texts must be undertaken. Therefore, to "keep up" with the procession, with newer methods and principles, all of us will be obliged to read widely and deeply. Cole and Elman and their associates have set the pace. Books which shall follow must "live up to" a very high standard indeed.

Clinical Anesthesia

Clinical Anesthesia. A Manual of Clinical Anesthesiology. By JOHN S. LUNDY, B.A., M.D., head of Section on Anesthesia, Mayo Clinic; professor of anesthesia, Mayo Foundation for Medical Education and Research, Graduate School, University of Minnesota. With 266 illustrations. Philadelphia and London: W. B. Saunders Company, 1943. Pp. 771. Price $9.00.

In a foreword, the late Dr. William J. Mayo stated that in the early days of surgical anesthesia, chloroform was the choice. Then came the A.C.E. mixture (alcohol, one part; chloroform, two parts, and ether, three parts), followed by *ether only* which "held the stage for many years." Of local anesthetics, procaine and its allies have been most widely used, especially for "blocking", and later for spinal and caudal injection. Thereby danger has been decreased and efficiency increased.

A simple glance through the table of contents gives one an immediate idea of the exhaustive way in which the subject matter is treated. For example; there is a chapter on "Balanced Anesthesia" which means that the combination of anesthetics is so arranged that part of the relief from pain is carried by local and part by one or more general anesthetics. Another chapter offers "Instructions to Physicians, Dentists, Nurses and Assistants" as to the "Equipment and Drugs Used in Anesthesiology." Spinal anesthesia is fully discussed in chapter 4 and is carried over into chapter 5. It is also mentioned in other places in the book. An important chapter (chapter 18) devotes forty-six pages to "Intravenous Anesthesia". This is of importance in wartime, especially where operations must be performed in submarines. The objection to gaseous anesthetics is quite obvious here.

It is good to see a chapter headed "Resuscitation", but one might well wish that it were extended beyond the mere eight pages allotted to it. Sudden death on the operating table is always a harrowing and searching experience. It is hard to convince relatives that it could not have been avoided. Many interns and nurses are not sufficiently trained in this kind of "first aid", probably because most patients "get by", but the hazards are well known to the expert anesthetist and he is ready to meet them. However, anesthesia is often administered by the inexperienced physician or nurse who is not equipped to deal with respiratory failure or other mishap.

This is a Mayo book from beginning to end, which is another way of saying that it is based on enormous and well-considered experience. It is readable and highly important.

Pediatrics

The Compleat Pediatrician. Practical, Diagnostic, Therapeutic and Preventive Pediatrics. For the use of medical students, interns, general practitioners, and pediatricians. By WILBERT C. DAVISON, M.A., D.Sc., M.D., professor of pediatrics, Duke University School of Medicine, etc. Fourth edition. Durham, N. C.: Duke University Press, 1943. Price $3.75.

Physicians, when confronted with a child who has certain symptoms, cannot always obtain the necessary help in diagnosis from a textbook, for often they are unable to interpret the patient's disease from the signs, and consequently cannot locate the description of the correct disease. This book appears useful, in teaching medicine for the best method of gaining a durable knowledge of pediatrics is through the study of patients and their symptoms, and then arriving at a diagnosis instead of a more or less mechanical memorization of text-book descriptions of diseases. "To study the phenomena of disease without books is to sail an uncharted sea, while to study books without patients is not to go to sea at all." (Osler) As a rule, student or physician notices the patient's most obvious symptoms and recalls that they occur in a certain disease, but frequently he forgets that these same symptoms may be present in several diseases. An erroneous diagnosis often is the result. Emphasis is placed on pediatrics for the recognition of normal children and the necessity of keeping them normal, based on a knowledge of growth, development and prevention on the one hand, and for the recognition of sick children, their diseases and what to do for them, on the other. More children are saved by preventing disease than by treatment, but many a youngster is alive today because some physician recognized

that he was seriously ill and knew how to apply the correct emergency measures. The prevention of infectious diseases is also emphasized; not only are they pediatric conditions, but they are of great military importance. General practitioners and pediatricians must not only practice prevention among civilian children, but when on military duty, they will find that communicable diseases are a far greater problem of war than are battle casualties.

The present edition is an effort to compile and record briefly those practical pediatric facts, which though essential, usually slip from memory. It is an attempt to combine in one volume, the information usually found in several, which should be consulted for more complete study. If a physician's mind were sufficiently "encyclopedic" to remember all of these data without a reminder, the chances are that his brain would not be adequately analytical to utilize this material in making a diagnosis. The hope is expressed that this book may serve as a "ready reminder". Memory is treacherous, a mere reminder often makes a physician the master of a situation.

At first glance this book, with its numerous cross reference numbers, resembles a telephone book or a mail order catalogue without pictures. Indeed, it might be called a *catalogue raisonne*, or a pediatric almanac or Baedeker. It merits the countryman's comment on reading the encyclopedia, "It is full of information but rather disconnected", or the remark of the lunatic who purchased a dictionary for light reading and complained that the author changed the subject so frequently.

Clinical Syphilis

A Synopsis of Clinical Syphilis. By James Kirby Howles, B.S., M.D., M.M.S., professor of dermatology and syphilology, and director of the department, Louisiana State University School of Medicine. With 121 text illustrations and two color plates. St. Louis: The C. V. Mosby Company, 1943. Pp. 671. Price $6.00.

There are a great many books on syphilis—perhaps as many as on any one subject—and one may well wonder why a new one should be written. No doubt, many will like this textbook on account of its simplicity and straightforward presentation and its extremely modern approach. Included in it is also the latest therapy available. The space devoted to the acquired form of syphilis is more generous than one usually finds in books of this type. This may in measure be due to the author's findings in that particular part of the world where he has done his clinical work.

An interesting portion of the book deals with the present status of syphilis. The author shows how in the last two decades the disease has undergone a change in its manifestations. He feels that perhaps we are dealing with an attenuated strain of spirochete today or possibly the manifestations that we find are caused by changes in our present day therapy. He believes that if arsenical therapy is not carried out to a thorough conclusion it may do harm by reducing the patient's natural resistance and without supplying sufficient therapeutic benefits. In the opinion of the author the present program for the eradication of syphilis is not completely satisfactory as it aims mainly to cure those who are ill rather than establish sufficient prophylactic measures through the education of the public. He feels that suppression of prostitution is impossible. He thinks the two most importa factors would be the reduction of the incidence congenital syphilis by proper maternal treatment du ing pregnancy and the earlier treatment of syphili patients. He also presents an interesting note on t economic aspects of antisyphilitic treatment, stre ing its importance to those who cannot afford prop and complete treatment. We ourselves believe th in addition to education, one of the most importa remedial measures would be an economic setup whi might possibly tend to lower the incidence of pros tution. We also are of the belief that promiscuity just as harmful as overt prostitution in spreading t dread disease.

Pioneers of Pediatrics

Pioneers of Pediatrics. By Abraham Levinson, B.S., M. assistant professor of pediatrics, Northwestern Univ sity Medical School, and professor of pediatrics, Cc County Graduate School of Medicine, Chicago. Secc edition, revised and reset. New York: Froben Press, 19 Pp. 119. Price $2.00.

Dr. Levinson has been a close and careful stud of medical history, particularly that portion wh pertains to pediatrics. This reviewer is sure that t revised second edition will prove valuable and structive to all who have an interest in the devel ment of the hygiene and diseases of infancy and chi hood. It is a salutary sign that an increasing numb of medical men are showing an interest in the story medical progress and in the great personalities w have gone before. It is too obvious to require repe tion that medical knowledge is not the product of c age or even one century. We have unconsciously a similated medical theories and facts which have co to us through the centuries. Of course the science a practice of medicine is not static, the discovery of n facts and procedures constantly increases our medi horizon and our usefulness. We are not unmindful the fact that the healing art has passed through stag of empiricism and darkness; nevertheless in all perio there arose masters who made contributions wh have lasted throughout the ages. To these heroes owe gratitude and pay homage.

Reaction to Injury

Reaction to Injury. Pathology for Students of Disease Ba on the Functional and Morphological Responses of T sues to Injurious Agents. By Wiley D. Forbus, M.D., p fessor of pathology, Duke University. 532 illustratic twenty of which are in color. Baltimore, Md.: The Willia and Wilkins Company, 1943. Pp. 797. Price $9.50.

The central idea of the chosen theme in this bo is that disease is a matter of the abnormal outco of a constantly changing relation between the ultim biological unit, the cell, and its environment; t abnormal outcome is or may be unfavorable to individual as a whole. Stated in another way, dise is a matter of the qualitative and quantitative react of an individual to environmental stimulation. T book begins with a section devoted to the nature a causation of disease. In this section, Part One, student is given an opportunity to see that the stu of disease is simply a continuation and an integrat of the studies which he long ago began. At the sa time, he is introduced to a new technique of stu (projectional, functional thinking based upon a tomical observation) by means of which he is to

vance his understanding of the environmental relationship, which is the basis of disease. For the student's historical orientation a brief story of the evolution of modern concepts of the nature of disease is introduced. A general orientation thus having been accomplished, a preliminary analysis of the relation between man and his environment is made; following this, the plan devised in this book for the study of disturbances in this relationship is presented. The essential element in disease is considered to be the reaction of the individual, in the last analysis, the reaction of the individual cells that compose the tissues, to agents and influences comprising the environment. The individual is considered to be capable of reacting in only three essential ways: 1, by resisting; 2, by submitting, and 3, by adapting. These three reactions, therefore, are taken to be the basis of all disease, and the recognized disease entities are considered to be the expressions of the elaboration of one or several of these reactions. After this conception of disease has been developed, an analysis of each of the basic reactions is presented; each of these analyses is followed immediately by a discussion of the important related disease entities. From this brief description, it is obvious that our interest is in the whole individual, a mass of integrated, reacting cells, tissues, organisms and systems. The old, conventional treatment of the subject as "general" and "special" pathology thus has been avoided, and the specific etiology of disease processes has been given a place secondary in importance to the more comprehensive problem of pathogenesis.

Mysticism

Mysticism in Modern Psychology. By Charles Carlé, Ph.D. New York: Psycho-Sociological Press, 1943. Pp. 47.

Mr. Charles Carlé has written a little pamphlet attacking Freud's psychology as well as the psychology of Rorschach. We do not feel that this is an objective analysis of either Freud's work or Rorschach's. We may not ourselves agree with either of these psychologists, especially the latter, but we do not see why they should be attacked in this fashion.

There are a few interesting paragraphs in this booklet but one gets the feeling of an emotional rather than a scientific approach. We are, however, totally in accord with the author's last line which reads, "... the creation of a better and more peaceful, democratic world", but we very much doubt if this can be achieved by his line of thinking.

The Heart in Pregnancy

(*Continued from page* 548)

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SEPTEMBER 1944

Medicolegal Notes

"Industrial Medicine" Problem for Experts

In an action under the Workmen's Occupational Diseases Act of Indiana, passed in 1937, the plaintiff employee, a sand cutter in an iron foundry, alleged that by defendant employer's negligence he had contracted silicosis which developed into tuberculosis. A judgment in his favor was affirmed by the Seventh Circuit Court of Appeals, Scroggs vs. American Stove Co., 142 F. 2d 297. The negligence charged was failure to provide sufficient fans, respirators, etc. It was held undoubted that plaintiff contracted the disease while in the defendant's employment, and the question whether this contraction resulted from the defendant's negligence was held for the jury. Recovery was allowed on both common law and statutory negligence, which, under the Occupational Diseases Act includes common law negligence.

At the same time, the court held it was permissible to allow doctors to testify as experts that plaintiff did contract the disease in plaintiff's plant. Authorities were cited from many other jurisdictions by defendant to sustain its contention that there was no evidence that it had omitted any precaution which persons engaged in such a business have exercised and for that reason no common law negligence was shown. But in Indiana evidence of customary methods general is admissible for consideration by the jury deciding as to the particular negligence charged. T test is, the court said: "What a reasonably prud person would have done under a similar situati rather than what some other person did or did not d

"Proximate Cause" and "Causal Connection" Between Accident and Death

To entitle the dependents of a workman to parti pate in the State Insurance Fund upon a claim t the workman's death from acute myocarditis was tributed to a compensable knee injury suffered years before, the proof offered must, first, show t the injury was a proximate cause of the death, a second, include evidence by competent medical w nesses that a probable relationship existed betwe the original accident and the myocarditis. Aiken Industrial Commission, Ohio Supreme Court, 53 E. 2d 1018.

Proximate Cause

"While the determination of the proximate ca of an ultimate result sometimes presents a diffic problem in a particular case, general principles cont ling the settlement of such questions are well est lished. Briefly stated, the proximate cause of an ev is that which is a natural and continual sequence, broken by any new, independent cause, produces t event and without which that event would not ha occurred," the court said. It also said:

"The rule is well settled by numerous cases that establish the relation of cause and effect between injury to a workman and his death so as to justify award of death benefits under a workmen's comp sation law, the evidence must be such as to rem the case from the realm of speculation and con ture; there must be competent evidence tending show a proximate causal connection between the jury and the subsequent death." Citations omitt

Causal Connection

Holding that evidence that a garage employee lifting a fifty gallon drum of alcohol sustained a str and that an exploratory operation showed thromb of the superior vena cava justified a compensat award, the New Jersey Court of Common Pleas, Gl ton vs. Shafto, 36 A. 2d 871, after analyzing the m cal testimony, which it found voluminous, contra tory and of a highly technical nature, concluded t the greater weight should be placed upon the evide of the treating physicians. As to diagnosis and ca relationship, the testimony of the doctor who was attendance on the claimant and examined him p operatively was held more informative than the op ion evidence offered by the employer. In such c of controversy among medical authorities, in appr ing the evidence the court adopted probability, ra than the ultimate degree of certainty, as the test.

The same court, in another branch, held tha award was authorized for the death of a foundry ployee who had high blood pressure and harde arteries at the time when he began to work at foundry and after working for only eight and a hours, doing hard work in a hot place, died f coronary thrombosis. Kattuck vs. Wright Aero tical Corp. 36 A. 2d 903.

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TRUTH OF THE MATTER

Doctors and Kings

T. SWANN HARDING
Falls Church, Va.

(*Continued from page* 504)

So he was attacked March 4th with what was unanimously regarded as an "intermittent tertian fever", its paroxyms being first followed by sweating. The King proved to be a bad patient and flatly refused to quit drinking. In the fever stage he could not put up with his condition quietly; in the sweating stage he declined all treatment, drank deeply, and would take no medicine. He was very restless.

"And so the King of all Monarchs left his earthly prison on March 27th, 1625." His body was dutifully pried into. Nothing definite came to light. Nobody hazarded a guess as to what caused his death. But it cost two thousand pounds to bury him.

We turn lastly to Louis XIV. His last illness is recorded in the *Johns Hopkins Medical Bulletin* for December 1912. His final years were sorrowful, his health had been failing for some time, but Fagon, his physician, himself old and broken, did not notice this. Mareschal, the first surgeon, spoke of it several times but was rebuked. The King, born 1638, was over seventy-six and had reigned since 1643. It was now 1715.

The King had always been an enormous eater, even while many of his subjects starved. He had habitual recourse to cathartics. Gangrene set in in his leg, but little attention was paid it; rubbing and asses' mi were prescribed. The King demanded that he be ble His ailment was diagnosed sciatica.

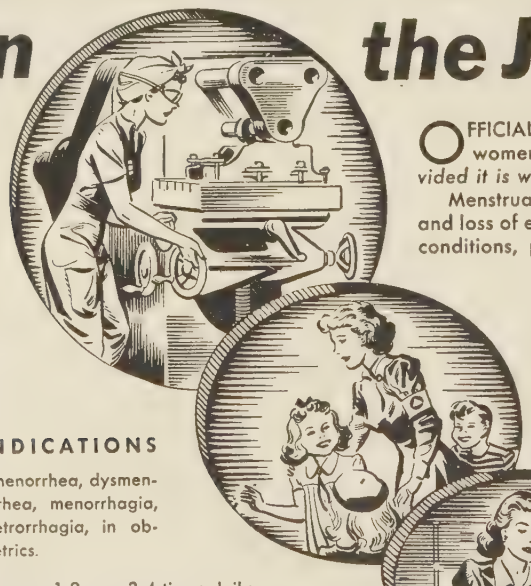
On August 14th, physicians were summoned fro Paris. However, they suspended decision and recon mended more asses' milk. The King was much wor by the 19th and on the 20th Fagon suggested bathi the leg an hour in spiced Burgundy wine. A herd of t Paris physicians came again on the 21st and still a other drove on the 22nd. They prescribed quinine a asses' milk, then hastened away, to return on the 23 to verify the King's improvement and find his leg bad as ever. They therefore blamed the female ass f giving inferior milk.

On the 24th there was a general consultation Paris. The leg was now wrapped in cloths soaked wi camphorated brandy. The condition began to be garded as surgical, so four surgeons were called Meanwhile the King managed to attend to busine until this day, after which he never left his room. just shows what a determined man can do in spite his doctors.

On the 25th the surgeons examined the King's le looked at each other, solemnly wagged their heads, a decided to drain out the pus on the 26th, which w done. By that time the King realized his life was abo over and began to settle his affairs. This, his religio devotions, and a little leg soaking occupied him t 27th and 28th, whereupon a great German physici arrived.

This chap being permitted to do his stuff admin tered an elixir made from the skulls of dead men, a

On the Job—OUR FEMININE "MANPOWER"



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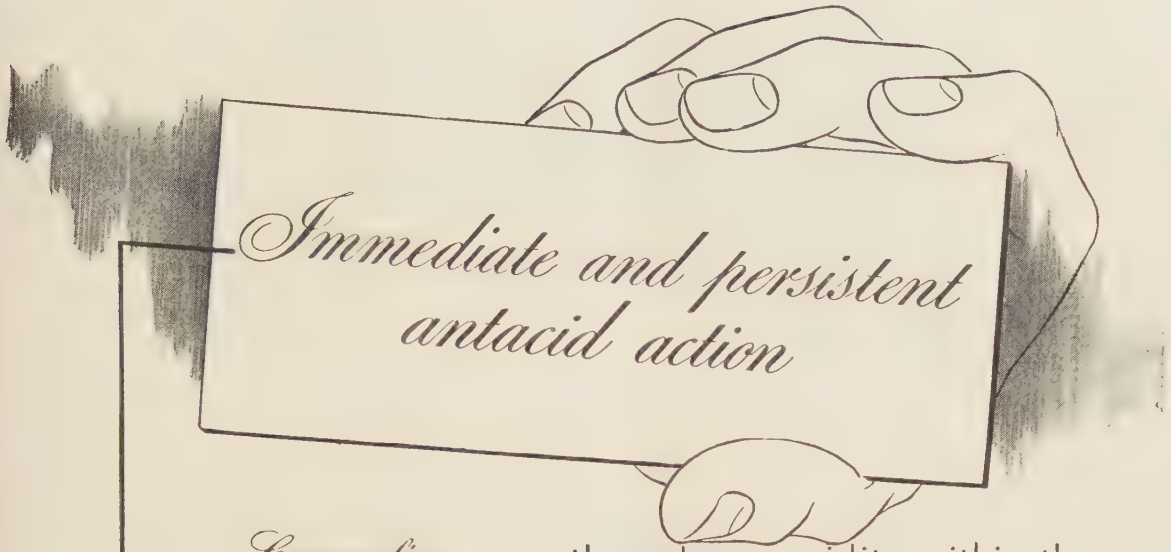

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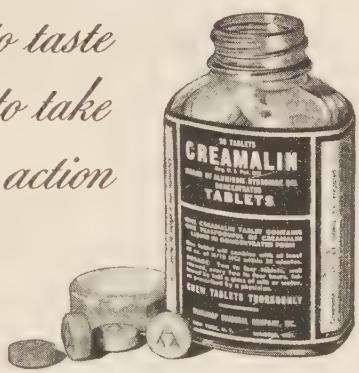

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usually prepared from the head of defunct criminals, well cured, and slightly mossed over with mold, if possible. On the 29th several doses of the pleasant elixir made the King comfortable, but his leg deteriorated. On the 30th he collapsed and remained unconscious until the next day.

Then, on the 31st, he was given a famous smallpox remedy, whereupon he roused a bit, lapsed hastily into unconsciousness again, and died the following day. At autopsy an enormously distended colon was found. This was attributed to his passion for cathartics. His journal disclosed that between 1647 and 1715 he took from one thousand five hundred to two thousand purgative doses, and in those days purges were purges, not mild regulators.

No wonder Charles II, when a boy, wrote his tutor, the Duke of Newcastle, advising him not to take too much physic and adding, "it doth alwais make me worse, and I think it will do the like with you." Incidentally, it was this same Charles who, when attending the Newmarket Races, amused himself by conferring M.D. degrees indiscriminately, the holders of such bogus titles being called "jockey doctors". You see what finally happened to him.

Granite Gables

Movies on Neuropsychiatry Now Available

A series of motion picture films on neuropsychiatric disorders have been made available to medical and strictly scientific groups for educational purposes by a new department of medical films in the New York University Film Library. These eleven films are the work of Dr. S. Philip Goodhart, chief of the neuropsychiatric division of Montfiore Hospital, New York and professor of clinical neurology at Columbia University; and Major Benjamin Harris Balser, M.C. consultant in neuropsychiatry, First Air Force, and associate in neurology at Columbia University.

The films have been used for a number of years in courses given to medical students at Columbia University and are now being made available for teaching purposes and professional discussion groups through the medical department of the New York University Flm Library.

"The motion picture, with its exactness and brevity is a medium admirably adapted to the teaching of neuropsychiatry," the announcement states. "By this means, patients manifesting symptoms of various disorders can be assembled for classroom study. Moreover, the progress of a disease in one patient over a period of years can be studied via the terse medium of the film. Unusual disorders, infrequently encountered in ordinary practice, are made readily available for study. The audience can analyze characteristic movements by 'slow motion' and see the results of special studies covering many years. Different forms of motility, impossible to describe accurately by words alone, are vividly portrayed through the motion picture."

The announcement also points out that the films may be re-run so that study groups may review the great range of symptomatology presented.

The medical department of the film library is under the supervision of a committee of the New York University College of Medicine, and distribution of the films will be restricted to professional groups and organizations.

PASADYNE

relieves the various vasomotor and nervous disturbances so frequent at the menopausal period, with uniformly good results.

Pasadyne acts promptly and without undesirable by-effects.

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of internal menstrual protection

Primarily, the unique functional design of the Tampax vaginal tampon accounts for its numerous advantages—anatomic, physiologic and psychologic.

As one gynecologist[1] stated, at the conclusion of a study involving more than 2,300 cases of all types (many of whom employed Tampax over extended periods): "The patient does not even know that a tampon is present in the vagina if it is inserted sufficiently deep." He continued, "Many say they can forget that they are menstruating and so are without the disturbing annoyance they had every time they menstruated."

A general practitioner[2], after studying 21 patients, remarked: "All patients were favorably impressed after using the tampons. Some said that they eliminated the chafing and itching caused by the usual external pads. Some said that they eliminated a 'wet feeling' or 'unpleasant odor'. Others preferred them because they could indulge in sports with greater freedom."

And another specialist[3], after observing 110 women (both single and married) who employed vaginal tampons throughout each period for from 1 to 2 years, reported that "because of the greater comfort experienced, 103 subjects preferred to continue to use the tampons through part or all of the menstrual period rather than to return to the use of the perineal pad alone."

Such opinions reflect the reactions of thousands of women in all walks of life who have experienced the advantages inherent in the Tampax method of menstrual hygiene.

(1) West. J. Surg., Obst. & Gyn., 51:150, 1943.
(2) Clin. Med. & Surg., 46:327, 1939.
(3) Am. J. Obst. & Gyn., 46:259, 1943.

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Pharmaceutical and Research Laboratories

Health of Industrial Workers

In an address delivered on July 25th on the coast-to-coast radio program of Schenley Laboratories, Inc., makers of penicillin, Dr. W. W. Bauer, director of the Bureau of Health Education for the American Medical Association, emphasized that "when battle lines extend from the far corners of the earth into the remotest American hamlet where industrial production takes place, the health of the industrial worker takes equal rank with that of the fighting man".

Accordingly, Dr. Bauer explained, the American Medical Association, through its Council on Industrial Health, in addition to guiding the organization of industrial health committees in state and county medical societies throughout the country, has devoted special issues of the association's publication to the subject. In furtherance of its purpose of improving the health of the production front, the Council also has been instrumental in introducing its study into the curriculum of medical schools and postgraduate courses for positions.

The small factory offers one of the greatest medical and health problems in industry, Dr. Bauer said, owing to its inability, because of size, to provide unaided the necessary safeguards and prompt treatment for on-the-job injuries. To assist in relieving this situation a comprehensive set of standing orders for industrial nurses working without the immediate supervision of a doctor has been developed by the Council in accord with accepted medical practices.

Of equal value as a safety measure, Dr. Bauer pointed out, has been the publication in pamphlet form of a procedure for industrial physical examinations classifying workers into the following groups: those fit for all work; those fit for work under periodic medical supervision with limited physical exertion or non-hazardous work, or with special consideration for orthopedic defects, impaired vision or hearing, or psychological handicaps; and those unfit for work at time of examination.

New Edition of Schering's "Handy Index"

A completely modernized version of Schering's *Handy Index to Hormone Therapy* has just been made available to physicians and pharmacists. The *Handy Index* is a highly useful compilation of data in the hormone field, covering indications, pathogenesis, therapy, rationale and dosage. These data are presented in a compact index, with a metal spiral binding and protected by a transparent acetate cover. Each therapeutic indication and hormone preparation is attractively tabbed for ready reference. In order to assemble the data compressed into this small book, which measures three and a half by five inches, considerable source material was sifted for important factual contributions. This material has now been brought up-to-date. All indications have been examined in the light of the most recent findings, and many which were in the experimental phase at the time of first publication have been added, with specific unit form dosage. New preparations such as Estinyl Tablets, Oreton-F Pellets and Cortate for sublingual administration are included.

Copies of the *Handy Index* may be obtained from the Medical Research Division, Schering Corporation, Bloomfield, New Jersey.

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Graduate Fortnight

The subject selected for discussion at the seventeenth Graduate Fortnight of the New York Academy of Medicine, to be held October 9th to 20th, is "Infections and Their Treatment". The program will consist of morning panel discussions, afternoon hospital clinics, evening addresses and scientific exhibits and demonstrations. At the opening session, Monday evening, October 9th, Dr. Arthur Chace, president of the Academy, will deliver an address of welcome. Dr. René J. Dubos, of the Rockefeller Institute, will deliver the Ludwig Kast lecture, his subject being the mode of action of antibacterial agents, and Dr. Colin M. MacLeod, professor of bacteriology, New York University College of Medicine, will read a paper on factors which influence the choice of antibacterial agents. At other evening sessions addresses will be delivered by Brig. General Hugh J. Morgan, U.S. Army; Commander Alvin F. Coburn, U.S.N.R.; Dr. Francis G. Blake, Yale University School of Medicine; Brig. General S. Bayne-Jones, U.S. Army; Dr. Joseph Earle Moore, Johns Hopkins University School of Medicine; Dr. John F. Mahoney, Senior Surgeon, U.S.P.H.S.; Dr. Russell L. Cecil, Cornell University College of Medicine; Dr. William S. Tillett, New York University College of Medicine; Dr. J. Albert Key, Washington University School of Medicine, St. Louis; Captain Lewis K. Ferguson, M.C., U.S.N.R.; Dr. Harrison F. Flippin, University of Pennsylvania; Dr. Charles A. Janeway, Harvard Medical School; Dr. Wiley D. Forbus, Duke University, and Lt. Commander Harold J. Harris, M.C., U.S.N.R. On Friday evening, October 13th, Dr. Thomas Francis, Jr., University of Michigan, will deliver the Wesley M. Carpenter lecture, the subject being "Influenza—Methods of Study and Control," and at the closing session, Friday, October 20th, the program will consist of a panel discussion on "Evaluation of Sulfa Drugs and Penicillin". Topics for morning panel discussions include pneumonia types and their response to various forms of chemotherapy, treatment of syphilis and gonorrhea and treatment of infections of eye, ear and upper respiratory tract. The scientific exhibit will demonstrate recent advances in the etiology, pathology, diagnosis, prophylaxis and treatment of infections and a drug exhibit will feature the products currently employed. There will also be a special exhibition of books illustrating the general subject.

New Chemotherapeutic Agent for Fungous Infection

The introduction of Desenex, a new fungicidal agent is announced by Wallace & Tiernan Products, Inc., Belleville 9, New Jersey. The active ingredients of Desenex are undecylenic acid, an unsaturated fatty acid, and zinc undecylenate. Various fungi, such as Microsporon audouini, Epidermophyton inguinale, Trichophyton purpureum, T. violaceum and T. interdigitale, are equally affected by the action of Desenex.

In dermatomycosis of the foot, clinical cure with Desenex has been achieved within three weeks. It is valuable for the treatment of acute and chronic conditions and also for prophylaxis and for the prevention of exacerbation of chronic latent infections.

Desenex is available as an ointment with a vanishing type base in tubes of one ounce and jars of one pound and as a powder in sifter cartons of two ounces. Literature is available upon request.

For your colds-susceptible patients who have "one cold right after another all winter"—here's a simple, inexpensive method of protection backed by thorough clinical evaluation.

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Rapid Treatment of Gonorrhea with Penicill

Rapid, simplified methods for treating gonorrh with penicillin, which require no hospital care for t patients and which can be used conveniently by ph sicians in private practice or by clinics, are report by physicians of the U.S. Public Health Service. T methods were developed to treat men from the Coa Guard and Merchant Marine, for both of which t Public Health Service is responsible for medical ca One schedule of five treatments can be completed only seven and a half hours; another requires adi tional treatment the morning of the second day. Il tients are required to be at the clinic or doctor's offi for only a few minutes at each of the five or six tim designated for penicillin injections. These rapid-tre ment schedules were developed because of the urgen of returning men to active duty.

The use of either of these methods, or modificatio of them, may make possible a wider application penicillin treatment to the problem of gonorrhea co trol in the national program to combat venereal di eases, where time and circumstances do not permit u use of standard twelve to twenty-one-hour treatme schedules. The new methods have been effective almost as many cases as the standard schedules.

The "out-patient" schedules of treatment were d veloped by Dr. C. J. Van Slyke, of the Public Hea Service Venereal Disease Research Laboratory, Stat Island, and Dr. S. Steinberg, of the U.S. Marine Ho pital, New York City, who reported their work in t August issue of *Venereal Disease Information.*

Of 136 men, seventeen to forty-three years old, 1 were cured of gonorrhea by the new system of trea ment. Approximately two-thirds of them previous had been treated with sulfa drugs, which failed to cu them. Some of them had been infected for months b fore the penicillin treatment. In one group, nine three patients were given five penicillin injections b tween 9 a.m. and 4:30 p.m., and a sixth injection nine o'clock the next morning. Only twelve of t ninety-three failed to respond. Nine of the twel returned for further treatment and all of them we cured. In another group forty-three patients we given five larger doses of penicillin between 9 a. and 4:30 p.m., with no further treatment. Of the thirty-six were cured.

Forty-three patients given one or the other of t two treatments did not return to the clinic for observ tion long enough after treatment to be listed as cure but all were apparently cured when last examined.

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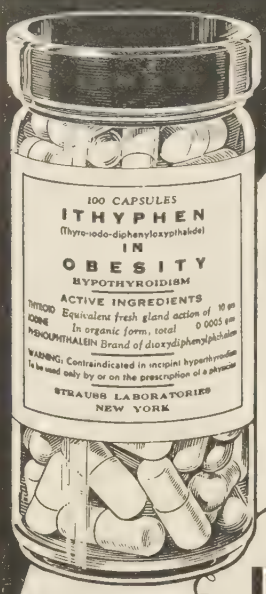

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Basic Problems of Rehabilitation

The tremendous advances in all branches of hea leads Dr. C. C. Burlingame, psychiatrist in chief of Institute of Living, Hartford, Conn., to suggest the distinction between *somatic* disease and *mental* ease be given up and attention turned to *disease.* future ideal hospital will be a place "where a pat may come for an assay of both physical and me conditions. Such hospitals will have to be organ creatively, be self-supporting, and financially so "The criteria of judgment regarding an institution" says, "will have to do with its philosophical conc and the intelligence of its fiscal planning".

The present state of education further demands a turn to the precepts of hard work and self-sacrifi endeavor, for which there has not yet appeared proven substitute in the process of learning. Reva tion of philosophical concepts requires the best tra minds for leaders and equally trained minds to be from what has been learned. "Surely the time come", Dr. Burlingame continues, "when leader psychiatry and those in authority in psychiatric educational institutions will realize that there are sharp lines between teaching the sick and the w that both the sick and the well should be expose the same types of training, to the degree that they take it and that education, and reeducation, is a liv dynamic process which cannot be cut up into neat tions or parcelled out in varying sized lumps.

"Our country is facing a future program of reha itation in which we must take on the responsibilit reeducation and resocializing millions of returning ualties who are mentally and physically sick from w devastations. If we are wise, we will give up tryin put these men into shifting groups of the neurotic, psychotic, the socalled normal. We will instead b into our institutions and into our hospitals the rev izing forces of vocational and avocational, social recreational, and physical education and we will c to all patients the content of this vast field of learn only modifying our techniques to meet the abilities needs of the individuals. . . .

"If we make our plans for reeducation broad eno in scope, and sound enough in principle to include patients, both in and out of institutions," Dr. Bur game concludes, "we will find that we have at last proper tools with which to reeducate, resocialize, rehabilitate."

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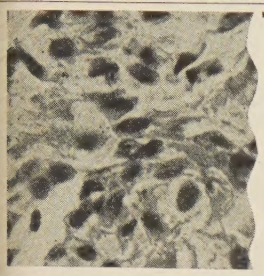

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[1]Biskind, G. R.: Proc. Soc. Exper. Biol. & Med. 43:259, 1940. Burrill, M. W. and Greene, R. R.: Endo. 31:73, 1942.

[2]Lisser, H. and Curtis, L. E.: J. Clin. Endo. 3:389, 1943.

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